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LARGE-SCALE OPERATIONS MANAGEMENT TEST OF USE OF THE WHITE AMUR--ETC(U)  
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waterfowl populations. Aquatic mammals were influenced by removal of vegetation due to shoreline development.

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## PREFACE

The work described in this volume was performed under Contract No. DACW39-76-C-0081 between the U. S. Army Engineer Waterways Experiment Station (WES), Vicksburg, Miss., and the Florida Game and Fresh Water Fish Commission, Orlando, Fla. The work was sponsored by the U. S. Army Engineer, District, Jacksonville, and by the Office, Chief of Engineers, U. S. Army, Washington, D. C.

This is the second of seven volumes that constitute Report 2 of a series of reports documenting a large-scale operations management test of use of the white amur for control of problem aquatic plants in Lake Conway, Florida. Report 1 of the series presents the results of the baseline studies of Lake Conway; Report 3 will present the second year poststocking results.

The work was performed and this volume was written by Messrs. Scott Hardin, Roy Land, Gary Morse, and Mike Spelman, of the Florida Game and Fresh Water Fish Commission.

The authors wish to thank the following people for their contributions: Drs. Llewellyn Ehrhart, Ray Littell, and Eric Prince; and Messrs. Dale Jones, Mike Rebel, and Boyd Thompson. Ms. Willa M. Hetrick provided valuable direction in the analysis of waterfowl food habits. Ms. Jackie Warren typed the manuscript.

The work was monitored by the WES Environmental Laboratory, Dr. John Harrison, Chief. Mr. J. L. Decell was Manager of the Aquatic Plant Control Research Program, EL. The study was under the general supervision of Mr. B. O. Benn, Chief, Environmental Systems Division, EL. Principal investigators at WES for the study were: Mr. R. F. Theriot, Mr. John Lunz, and Mr. Eugene G. Buglewicz, all of the ESD, EL.

Commanders and Directors of WES during the conduct of the study and preparation of the report were COL John L. Cannon, CE, COL Nelson P. Conover, CE, and COL Tilford C. Creel, CE. Technical Director was Mr. F. R. Brown.

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LARGE-SCALE OPERATIONS MANAGEMENT TEST OF USE  
OF THE WHITE AMUR FOR CONTROL OF PROBLEM  
AQUATIC PLANTS

FIRST YEAR POSTSTOCKING RESULTS

The Fish, Mammals, and Waterfowl of Lake Conway, Florida

PART I: INTRODUCTION

Background

1. Excessive growth of aquatic plants has resulted in problems for anglers, navigators, water managers, and waterfront property owners. Warm temperatures and a long growing season have intensified weed infestations in southern latitudes (Graves 1976), and exotic plants have become a major problem in many parts of Florida. Hydrilla (Hydrilla verticillata), probably introduced with the aquarium trade, is now considered to be the major pest plant in the southeastern United States (Hamilton 1976), infesting over 280,000 ha in Florida (Haller 1977). Its ability to grow at lower light levels than do native species (Thai et al. 1976) and its remarkable growth characteristics (Haller and Sutton 1975) have led to complete infestation of some water bodies.

2. Control of noxious weeds has been restricted principally to mechanical and chemical methods. The former is prohibitively expensive, and, although chemical control is effective, long-term ecological effects of herbicide application have yet to be determined; few herbicides are currently approved for use (Graves 1976). Because neither method alleviates increased nutrient levels, which cause weed proliferation, only short-term control has been achieved. Biological control is appealing because, once the control agent has been established, no further work is necessary (Michewicz, Sutton, and Blackburn 1972). Results of some biological control agents have been encouraging (e.g., alligatorweed flea beetle, Agasicles hygrophila and mottle waterhyacinth weevil, Neochetina eichhorniae); however, introduction of any exotic organism results in

changes in the biological community, and a circumspect approach to biological introduction is necessary (Martin 1976).

3. The white amur (Ctenopharyngodon idella) is one of the more promising fish species tested for weed control (Verigin, Viet, and Dong 1963; Hickling 1966; Cross 1969; Michewicz, Sutton, and Blackburn 1972). Its ability to consume large quantities of aquatic vegetation including hydrilla has been documented by several investigators (Avault 1965; Krupauer 1968, Mehta and Sharma 1973; Edwards 1974; Edwards and Moore 1975, Sutton 1974). However, the efficacy of the fish in controlling aquatic weed problems in large bodies of water is unproved (Sutton, Miley, and Stanley 1977). Additionally, there are possible adverse ecological effects of white amur introduction which fall into three categories: direct competition with native fish and waterfowl species for food, habitat destruction by removal of vegetation, and deterioration of water quality through the release of nutrients from decomposing white amur fecal material.

4. Although white amur are considered to be almost exclusively herbivorous after reaching a length of about 30 mm (Hickling 1966), Cross (1969) and Edwards (1973) found that white amur readily consumed invertebrates in the laboratory. Several other studies (Kilgen and Smitherman 1971; Terrell and Fox 1974; Mitzner 1978) found animal food to be a minor dietary constituent. However, Cottam (1939) found overwintering waterfowl in Florida to consume plants also eaten by white amur.

5. Aquatic plants are important as spawning grounds, for refuge and feeding areas for juvenile fish, as a substrate for important fish and waterfowl food organisms (Krull 1970; Wegener, Holcomb, and Williams 1973; Vinogradov and Zolotova 1974), as a food source for waterfowl (Chabreck, Yancy, and McNease 1975), as a refuge and food source for aquatic mammals (Birkenholz 1963; Ehrhart 1976), and as primary producers (Boyd 1971). Wegener, Holcomb, and Williams (1973) estimated the standing crop of fish in the littoral zone (<450 mm) of a shallow, vegetated Florida lake to be 101.7 kg/ha. Elimination of aquatic vegetation could drastically affect the productivity of the ecosystem by altering

primary production and destroying the base of the food chain for important sport fish, migratory waterfowl, and aquatic mammals. Disappearance or reduction of sport fish populations has been observed after white amur introduction (Vinogradov and Zolotova 1974; Newton and Merkowsky 1975; Ware and Gasaway 1976; Forester and Lawrence 1978).

6. Hickling (1966) suggested that because white amur digest only 50 percent of ingested food, excessive phytoplankton blooms might result from decomposing fecal organic matter. Although increased nutrient levels have been observed in pools and ponds with white amur (Avault 1965; Michewicz, Sutton, and Blackburn 1972; Doscocil, Wilky, and Lembi 1973), others have noted reduced phytoplankton populations in stocked ponds (Terrell 1975; Rottmann and Anderson 1978; Lembi et al. 1978; Mitzner 1978). If phytoplankton levels increase, an attendant increase of planktivorous fish could result, shifting fish standing crop relationships.

#### Purpose

7. In view of the potential weed control capability and possible adverse ecological effects of white amur introduction, the U. S. Army Engineer Waterways Experiment Station (WES), Vicksburg, Miss., is conducting a Large-Scale Operations Management Test in Lake Conway, Florida. From the Lake Conway study, the Corps hopes to assess the environmental impact of the white amur, evaluate its ability to control vegetation, develop ecological models to predict the effect of the fish on other systems, and devise a management plan for large-scale use.

8. Agencies involved in the Lake Conway project include the Florida Game and Fresh Water Fish Commission (fish, waterfowl, and aquatic mammals); Florida Department of Natural Resources (aquatic plants); Orange County Water Pollution Control Department (water quality); University of Florida (plankton and macroinvertebrates); and University of South Florida (amphibians and reptiles).

#### Scope

9. This report describes changes that occurred in fish, waterfowl,

and mammal populations on Lake Conway the first year after introduction of the white amur. Data for each of the three populations are presented separately. The parameters measured were:

- a. Fish. Abundance and species composition in vegetated and nonvegetated habitats; open-water populations; standing crop and population composition; sport fishery catch statistics; and diversity indices of components of the population.
- b. Waterfowl. Abundance and species composition; and food habits of principal species of migratory waterfowl.
- c. Aquatic mammals. Abundance and habitat preference of the Florida water rat; and trapping statistics for mammal populations present.

Analysis of these parameters should reflect any changes attributable to white amur either through direct competition, habitat destruction, or alteration of water quality.

## PART II: MATERIALS AND METHODS

### Fish Populations

10. Lake Conway is a 747-ha chain of five natural lakes in Orange County, Florida. Mean lake elevation is 25.7 m mean sea level (msl); mean annual air temperature is 20°C; and average rainfall is 131 cm (Guillory et al. 1977). The chain, in the northern portion of the Kissimmee River drainage, has one inlet and one outlet stream. Shoreline development has replaced much of the natural vegetation with lawns and white sand beaches; however, cattail (Typha latifolia), maidencane (Panicum hemitomon), pickerelweed (Pontederia cordata), and fuirena (Fuirena scirpoides) form a fringe of emergent vegetation in parts of the lake. Dominant submerged vegetation at present includes nitella (Nitella sp.), Illinois pondweed (Potamogeton illinoensis), and hydrilla. Bottom substrate is primarily sand with some areas of organic deposition.

11. Fish populations were sampled monthly by Wegener ring (Wegener, Holcomb, and Williams 1973), 3.0- and 6.1-m seine, gill nets, and electrofishing (Figure 1). Two Wegener ring collections and five 3.0-m seine hauls were made at each designated site (shown in Figure 1) in shallow, vegetated habitats; five standard quarter hauls with a 6.1-m seine were made on nonvegetated beach sites. One sinking and one floating gill net (45.6 m in length with 3- to 6-in. stretch mesh size) were set for 12 hr at each open-water site. Electrofishing was conducted for 30 min each at vegetated and nonvegetated sites. For all samples, largemouth bass (Micropterus salmoides), bluegill (Lepomis macrochirus), chain pickerel (Esox niger), and white amur were measured to nearest millimetre and weighed to within 0.1 g; other species were grouped in 10-mm size classes and weighed to within 0.1 g.

12. Standing crop estimates were made biannually using three 0.4-ha blocknets (Tables 1 and 2). Rotenone was applied at a rate of 2 mg/l; fish collected were sorted to species, grouped into 2.54-cm (1-in.) size classes, and weighed to within 0.1 g.

13. The sportfishery was measured by a stratified random roving

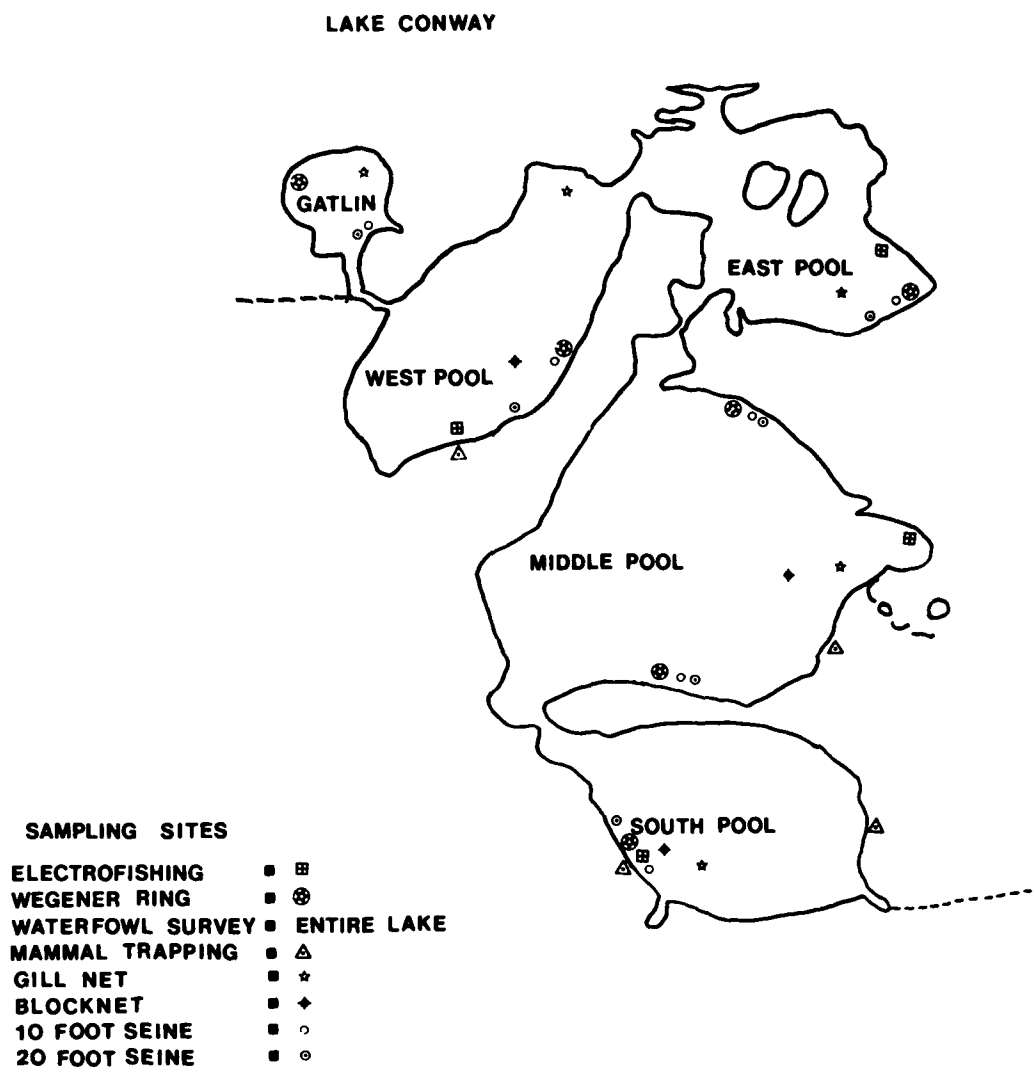


Figure 1. Sampling sites for Lake Conway, 1977-1978

creel survey (Table 3) with nonuniform probability sampling (Pfeiffer 1967; Ware, Fish, and Prevatt 1972). Data were analyzed by the Southeastern Cooperative Game and Fish Statistics Project, North Carolina State University, Raleigh, N. C.

14. Stomach contents from at least 10 largemouth bass, bluegill, chain pickerel, and bluefin killifish (*Lucania goodei*) were examined monthly. Items in the first three species were identified and weighed

to within 0.1 g where possible. Total stomach contents from bluefin killifish were weighed and items identified to the lowest possible taxonomic category. The foregut (from the esophagus to the first turn) of all white amur captured was removed and examined for plant and animal remains (Table 4). Total contents were quantitated by water displacement; unidentifiable plant fragments were separated and measured volumetrically.

15. Length-weight regressions (Ricker 1958; Tesch 1968; Carlander 1969) were calculated quarterly and yearly for largemouth bass, bluegill, and chain pickerel (Table 5). Slopes and adjusted means of yearly length-weight regressions were compared by analysis of covariance (Herke 1959). Condition factors were calculated quarterly and yearly (Table 6) for largemouth bass  $\leq 300$  mm, largemouth bass  $> 300$  mm, bluegill  $\leq 125$  mm, bluegill  $> 125$  mm, and all chain pickerel according to the formula (Lagler 1956):

$$K_{tl} = W/L^3 \times 10^5 \quad (1)$$

where

$K_{tl}$  = quarterly condition factors

W = weight, g

L = total length, mm

Variance of yearly mean condition factors for each species was found to be nonhomogeneous by Bartlett's test (Steel and Torrie 1960). Therefore condition factors were compared by the Kruskal-Wallis test (Merle and Clelland 1951; Prince et al. In press).

16. Three diversity indices were calculated monthly for each sampling procedure except blocknet:

a. Shannon-Weaver Index  $H'$  (Pielou 1966)

$$H' = 1 \sum (n_i/N) \log_{10} (n_i/N) \quad (2)$$

where

$n_i$  = number of individuals in the  $i^{th}$

N = total number of individuals

b. Species richness D (Margalef 1957)

$$D = S \log_{10} N \quad (3)$$

where

S = number of species

N = total number of individuals

c. Species evenness J (Pielou 1966)

$$J = H' / \log_{10} S \quad (4)$$

where S = number of species.

#### Waterfowl and Wading Birds

17. Counts of waterfowl and wading birds observed from an airboat were made monthly. The entire lake was divided into 48 sample areas to facilitate counting.

18. Migratory waterfowl were collected by shotgun, and gizzard contents were examined from American coot (Fulica americana), ringed-neck duck (Aythya collaris), common gallinule (Gallinula chloropus), and Florida ducks and mallards (Anas platyrhynchos) (Table 7). Total contents were measured by water displacement. Identifiable plant and animal fragments were separated and measured volumetrically where possible. Percentage grit was estimated visually.

#### Aquatic Mammals

19. Bimonthly trapping was conducted at four sites (Figure 1 and Table 8). Three types of traps were set overnight. Tomahawk double-door, treadle-operated traps were baited with fish to capture larger mammals (raccoon Procyon lotor and opossum Didelphis marsupialis); and Sherman folding aluminum traps (3.5 by 3.5 by 9 cm) were baited with peanut butter to capture small mammals (hispid cotton rats Sigmodon

hispidus, rice rats Oryzomys palustris, and Florida water rats, Neofiber alleni). Due to the low rate of capture of Florida water rats by Sherman traps, the third type of trap, specially constructed Neofiber traps, were placed inside nests of this species.

20. Counts of all Florida water rat nests were made monthly at each trapping site. Vegetative cover, nest material, and water depth were noted. Percent cover of each species of emergent vegetation was visually estimated bimonthly, and Ivlev's Electivity Index (Ivlev 1961) was calculated (Table 9). This index quantitates preference based on the utilization of an item relative to its abundance.

### PART III: RESULTS

#### Fish Populations

21. Results of monthly sampling for each gear type are presented in Appendix A Tables A1-A6; number of individuals, weight, number of species, and diversity indices are presented in Figures 2-7.

##### Wegener ring

22. *Gambusia* (*Gambusia affinis*), bluefin killifish, and Seminole killifish (*Fundulus seminolis*) were the most abundant species collected in Wegener ring samples during 1977-78. Seminole killifish and gambusia yielded the most weight. More bluefin killifish were observed than in 1976-77, and yellow bullhead (*Ictalurus natalis*) and sailfin mollie (*Poecilia latipinna*) were captured for the first time in 1977-78. Average number of fish per sample declined from the baseline year; however, the average weight per collection of 11.35 g was similar. Monthly Shannon-Weaver and species evenness indices were generally lower than in 1976-77, but marked differences were not apparent.

##### Seine

23. *Gambusia* and Seminole killifish were the principal species captured in 3.0-m seine samples, together comprising 78 percent by number and 76 percent by weight of fish collected in 1977-78. Numbers and weight of bluegill, coastal shiner (*Notropis petersoni*), and bluefin killifish declined from 1976-77 to 1977-78. Except for a large yield from the September 1976 sample, monthly values of the 2 years were similar. Fewer species were captured per collection during much of 1977-78 than in the previous year. Other diversity indices were similar between years.

24. Seminole killifish was the dominant species by number and weight in 6.1-m seine collections. Total number of individuals by weight per collection declined significantly ( $p < 0.05$ ) from the baseline year. Diversity indices displayed no apparent trend between years.

##### Gill net

25. Largemouth bass, Florida gar (*Lepisosteus platyrinchus*), and

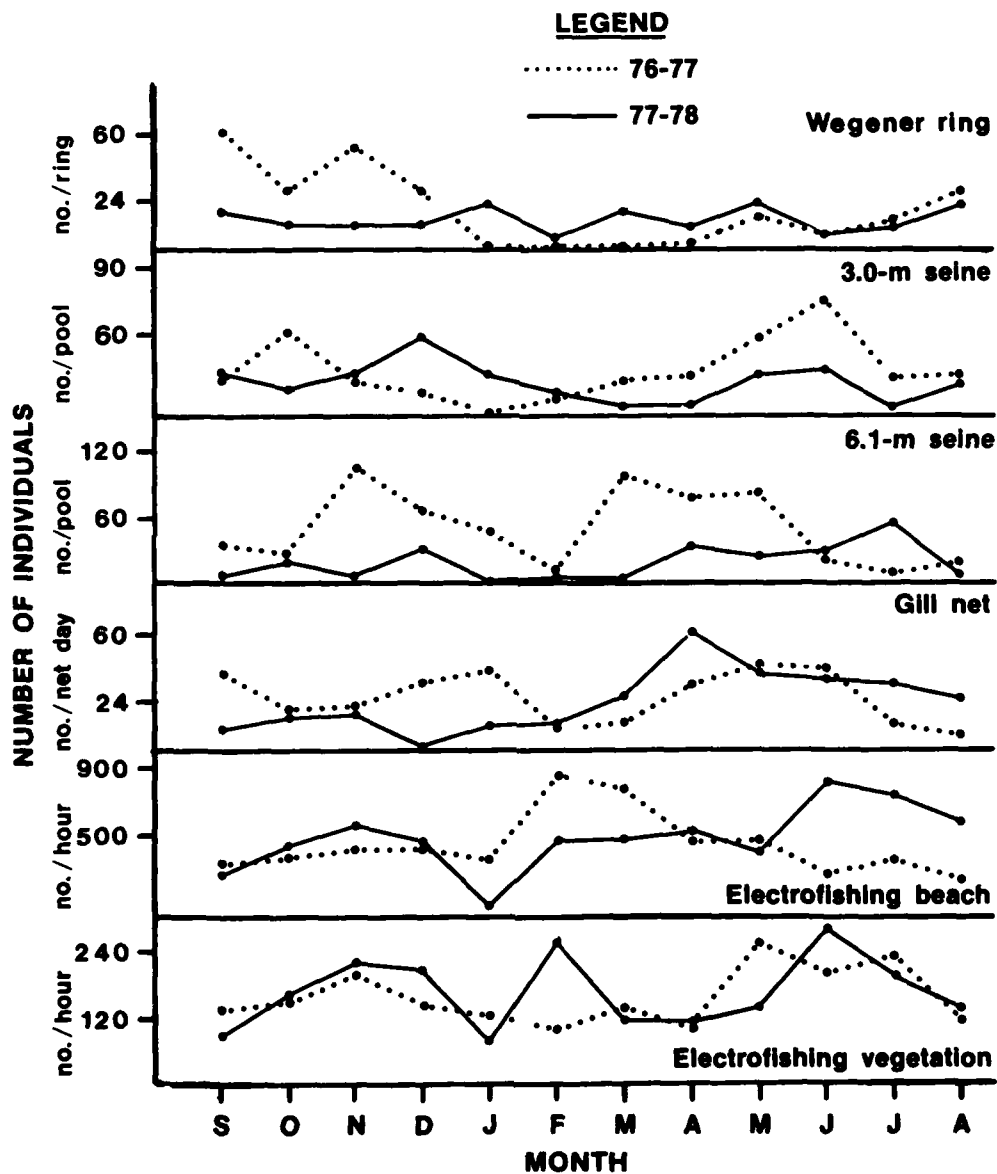


Figure 2. Numbers of individuals collected monthly by six sampling methods, Lake Conway, 1976-78

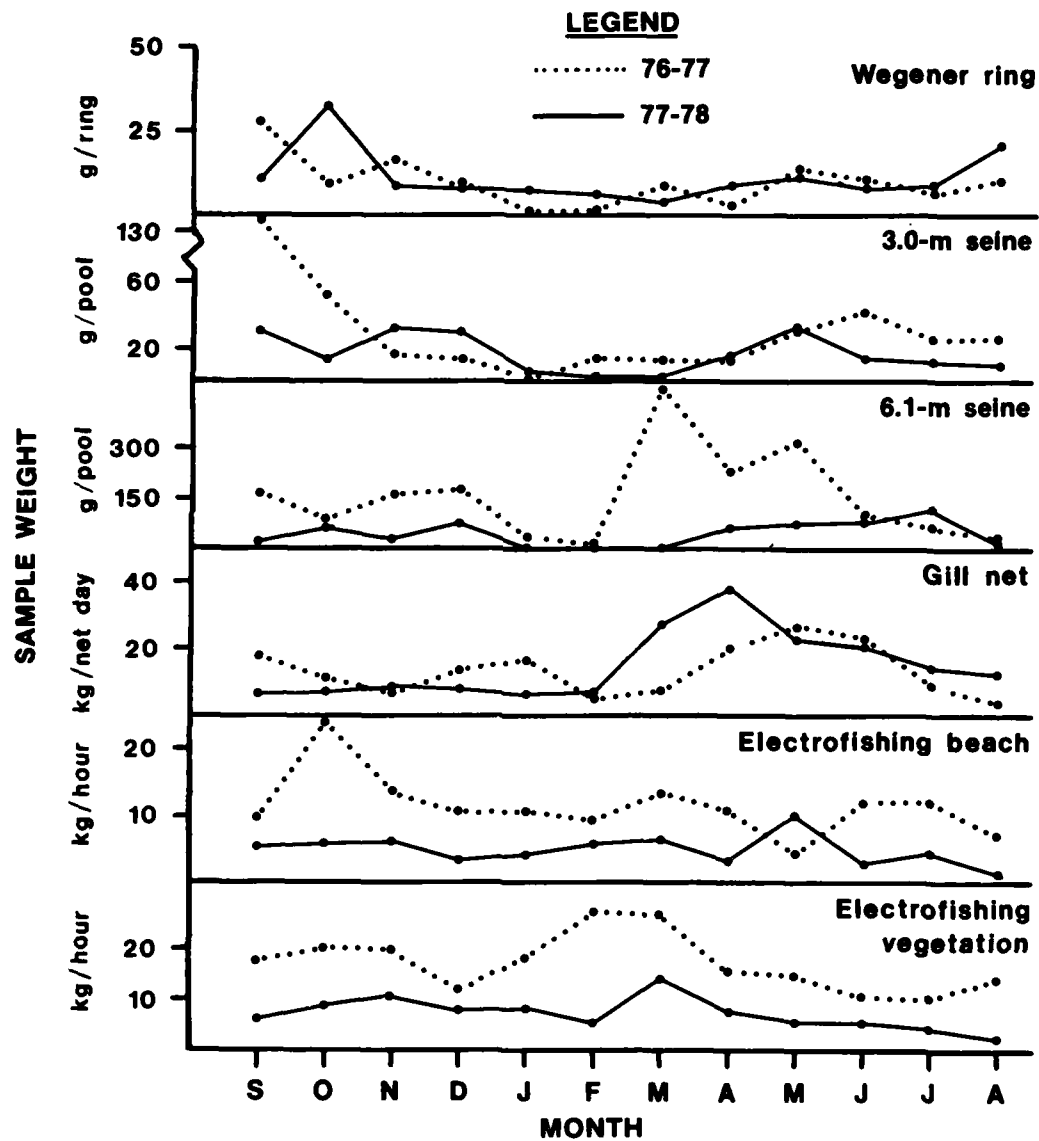


Figure 3. Mean weight of fish collected monthly by six sampling methods, Lake Conway, 1976-78

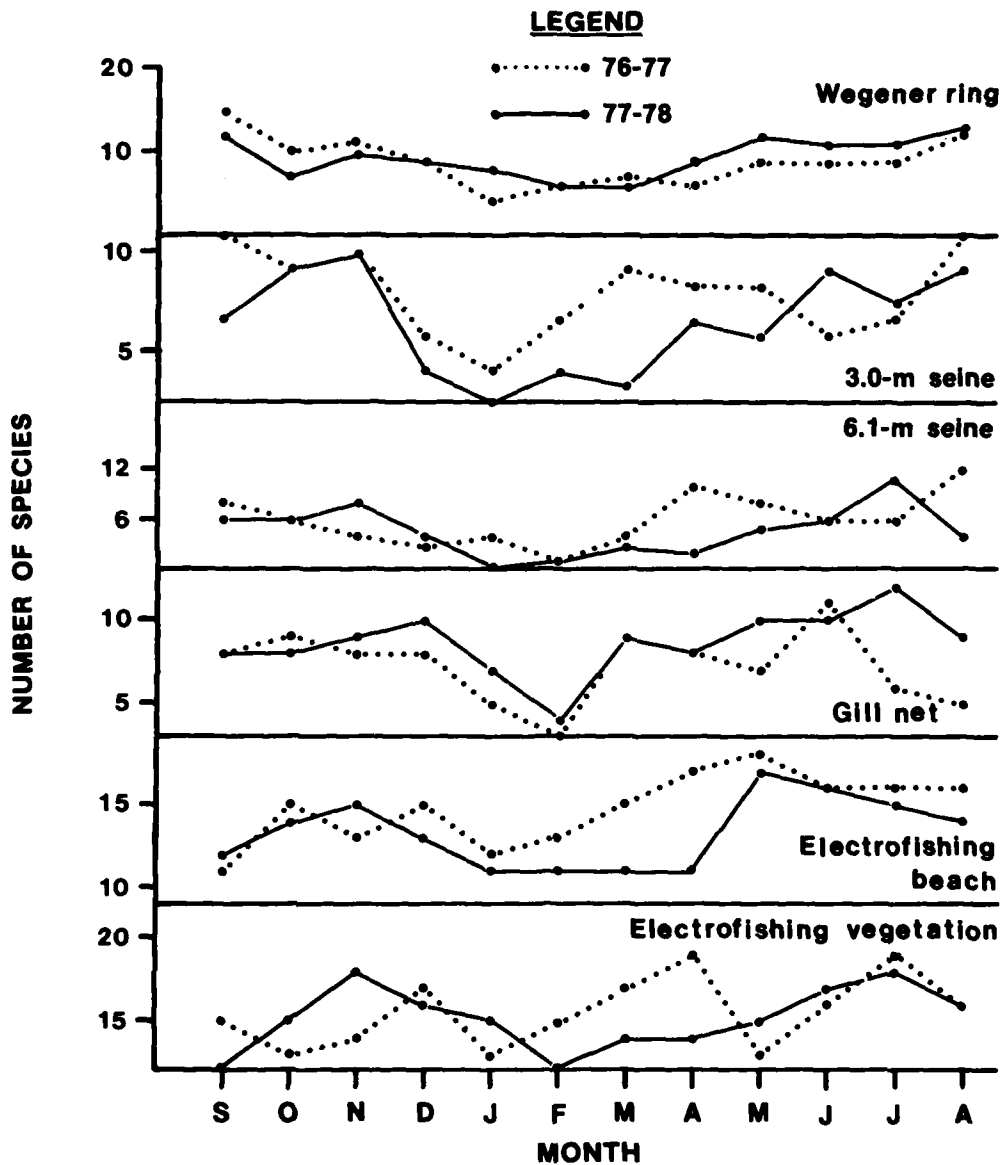


Figure 4. Numbers of species collected monthly by six sampling methods, Lake Conway, 1976-78

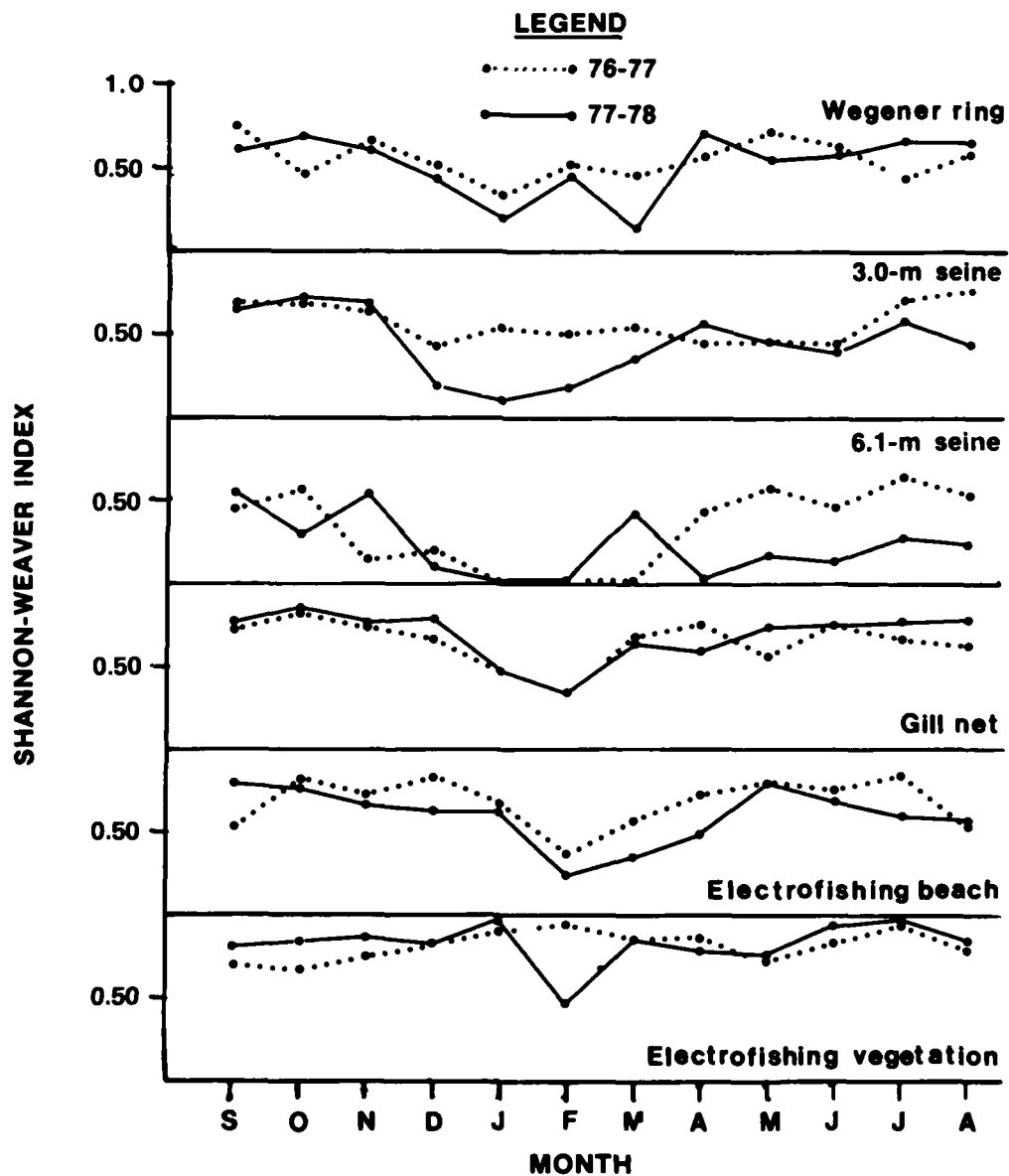


Figure 5. Monthly Shannon-Weaver Index values for six sampling methods, Lake Conway, 1976-78

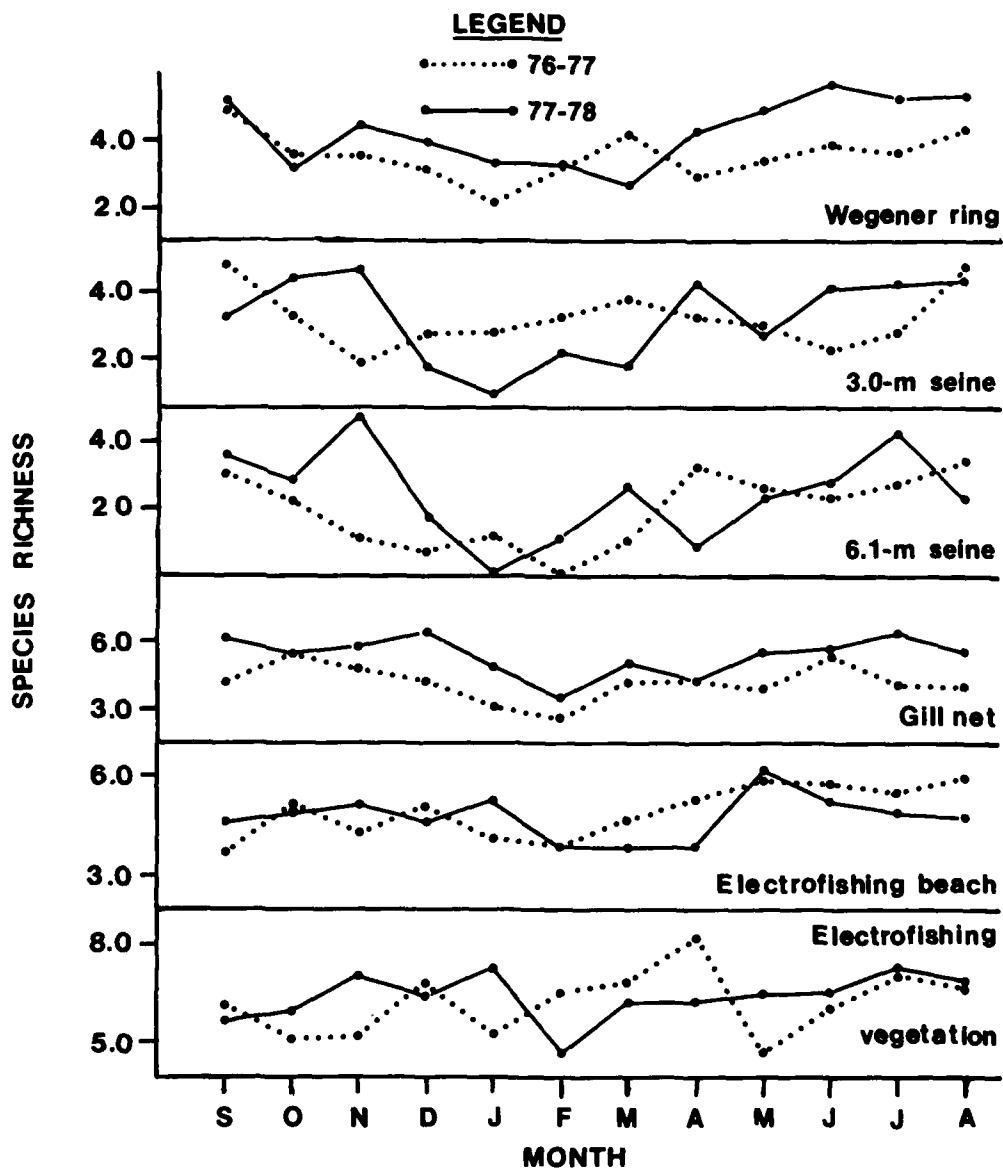


Figure 6. Monthly species richness values for six sampling methods, Lake Conway, 1976-78

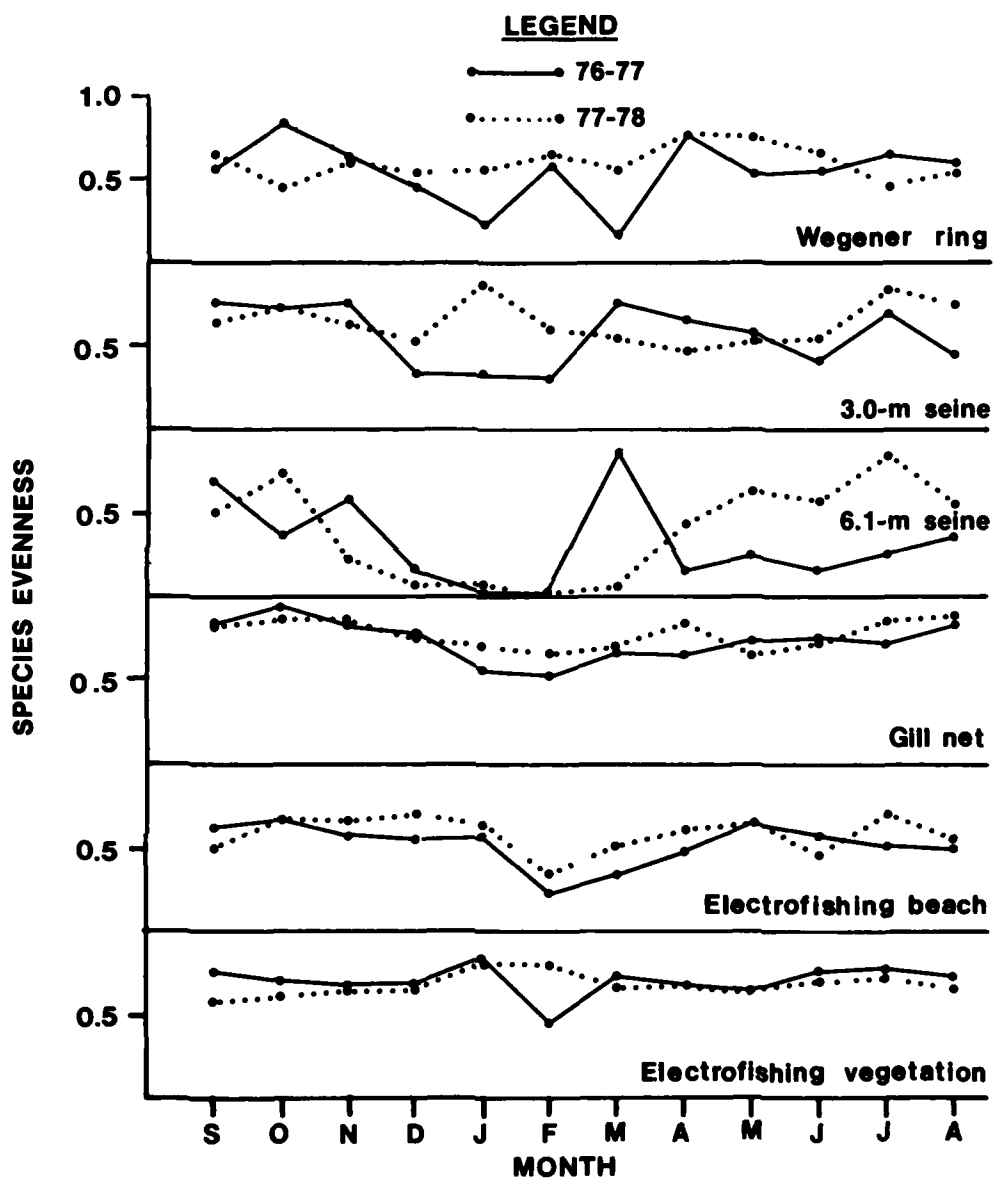


Figure 7. Monthly species evenness values for six sampling methods, Lake Conway, 1976-78

gizzard shad (Dorosoma cepedianum) were the most numerous species collected in gill nets during 1977-78. Along with golden shiner (Notemigonus crysoleucas), these species comprised 96 percent of the weight collected. Black crappie (Pomoxis nigromaculatus) and gizzard shad declined numerically from the baseline year. Largemouth bass predominated in winter samples, while greater percentages of Florida gar and gizzard shad were captured during warmer months. Average total number and weight of fish were slightly less than in 1976-77. Species richness was higher throughout 1977-78 than in the previous year.

26. Bluegill, brook silverside (Labidesthes sicculus), and redear sunfish (Lepomis microlophus) were the most abundant species collected by electrofishing vegetated areas. Chain pickerel, largemouth bass, redear sunfish, bowfin (Amia calva), and bluegill, respectively, produced the most weight. Numbers of brook silverside sampled increased considerably from 1976-77, while average largemouth bass weight collected declined from the baseline year. Sportfish comprised 69 percent by weight of fish sampled from vegetated areas, slightly less than the 73 percent observed during the baseline year. Average total number of all fish collected increased slightly and total weight decreased significantly ( $p < 0.01$ ) from 1976-77. Diversity indices were similar between years.

27. Brook silverside numerically dominated electrofishing beach sites, comprising 57 percent of the total. By weight largemouth bass, redear sunfish, bluegill, and chain pickerel, respectively, were most abundant. Percentage by weight of bluegill and redear sunfish declined from 1976-77. By weight sportfish comprised 65 percent of fish collected. Average total numbers of fish increased slightly from the baseline year, but total weight decreased significantly ( $p < 0.05$ ), principally due to reduced weight of largemouth bass, bluegill, and redear sunfish. Number of species collected was lower through most of 1977-78 and diversity indices showed no apparent change.

#### Blocknet

28. The estimated standing crop using a 0.4-ha blocknet was 109.19 kg/ha, a slight increase from the baseline year (Table A7). Total number of fish per hectare decreased from 1976-77 due to fewer numbers of

bluespotted sunfish (Enneacanthus gloriosus). Numerically, bluespotted sunfish dominated, comprising 63 percent of the samples. Large numbers of threadfin shad (Dorosoma petenense) and largemouth bass, each encountered in only one sample, inflated the percentages of these species. Largemouth bass, redear sunfish, bluespotted sunfish, and bluegill constituted 71 percent of the total weight. Sample weights were variable ranging from 65.72 to 147.05 kg/ha, with both extremes observed at one site.

29. Sportfish comprised 19.3 percent by number and 69.5 percent by weight of blocknet samples of 1977-78 (Table 1). Percentages of forage and nonsport fishes were similar between years. Numbers of harvestable sportfish increased from the baseline year (Table 2). Weight of harvestable sportfish increased from 35 percent to 41 percent; all sport species except black crappie increased in weight.

30. Graphs of length-frequency data for blocknet samples in 1977-78 are presented in Figures 8-13. Most largemouth bass from October samples were young of the year, with the remainder distributed over the 178-mm (7-in.) to 457-mm (18-in.) range. Excellent bass reproduction occurred in spring 1978 and year class I fish were evident in the 127-mm (5-in.) to 178-mm classes. Bass above this size were fairly uniformly distributed. Graphs of bluegill and redear sunfish length-frequencies indicate excellent reproduction and large numbers of intermediate (76 to 127 mm) fish, with little recruitment to adult size classes.

31. Anglers spent an estimated 48,785 man-hours on Lake Conway in 1977-78, a decrease of 17.9 percent from the baseline year (Table 3). Summer quarter 1977 exhibited the largest decline in effort (10,934 man-hours). During this quarter only bream (bluegill and redear sunfish) effort increased but success for this category declined dramatically from 5.58 to 0.83 fish per man-hour (Guillory et al. 1977). Although yearly fishing pressure was lower than in 1976-77, success increased 10 percent (0.04 fish per man-hour). However, average harvest declined from 12.7 to 11.6 fish per acre between years, an 8.7 percent decrease. Average pressure declined from 33 to 26.8 hours per acre between years. Success rate for bass increased 58.3 percent from the baseline year,

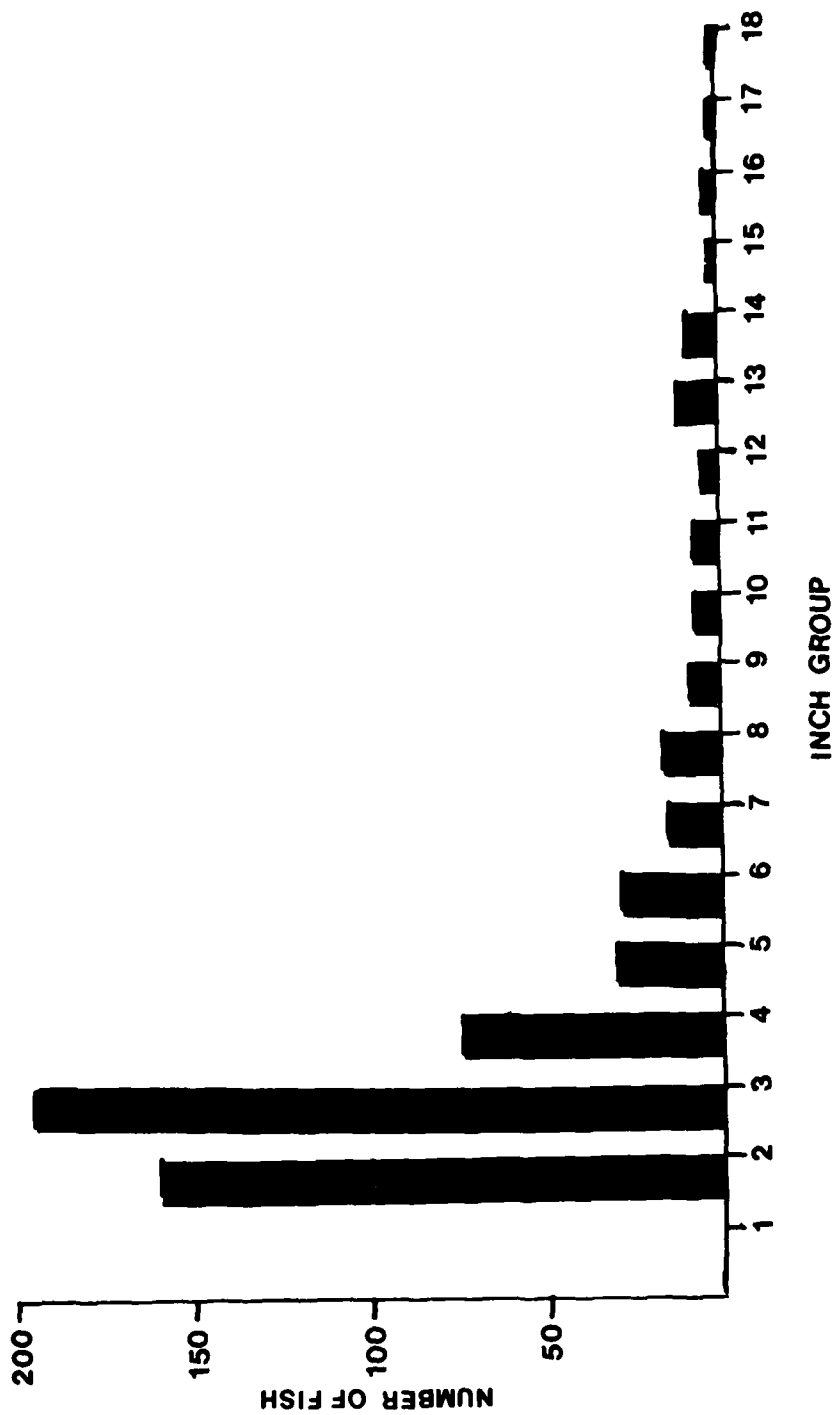


Figure 8. Length-frequency data for largemouth bass from blocknet samples, Lake Conway, October 1977

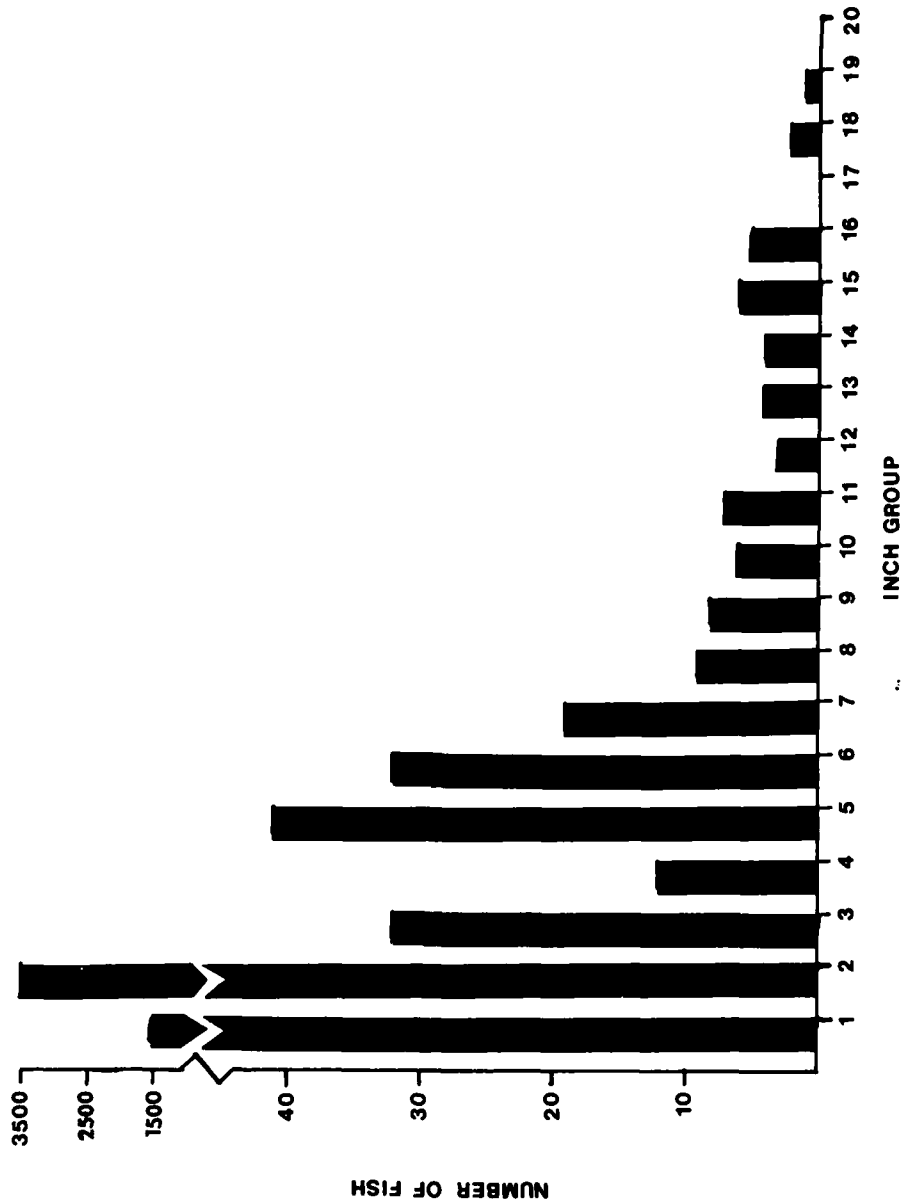


Figure 9. Length-frequency data for largemouth bass from blocknet samples, Lake Conway, May 1978

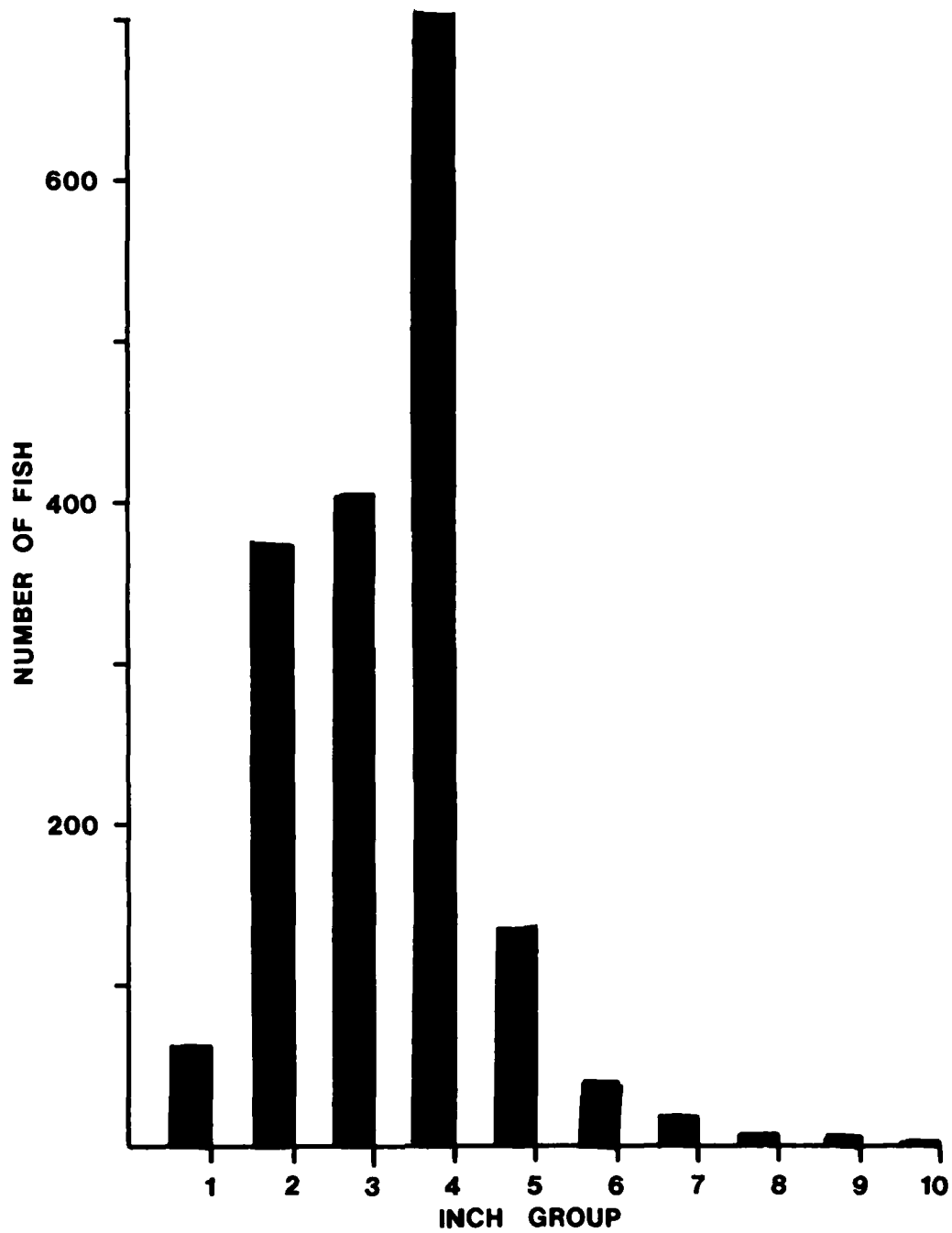


Figure 10. Length-frequency data for bluegill from blocknet samples, Lake Conway, October 1977

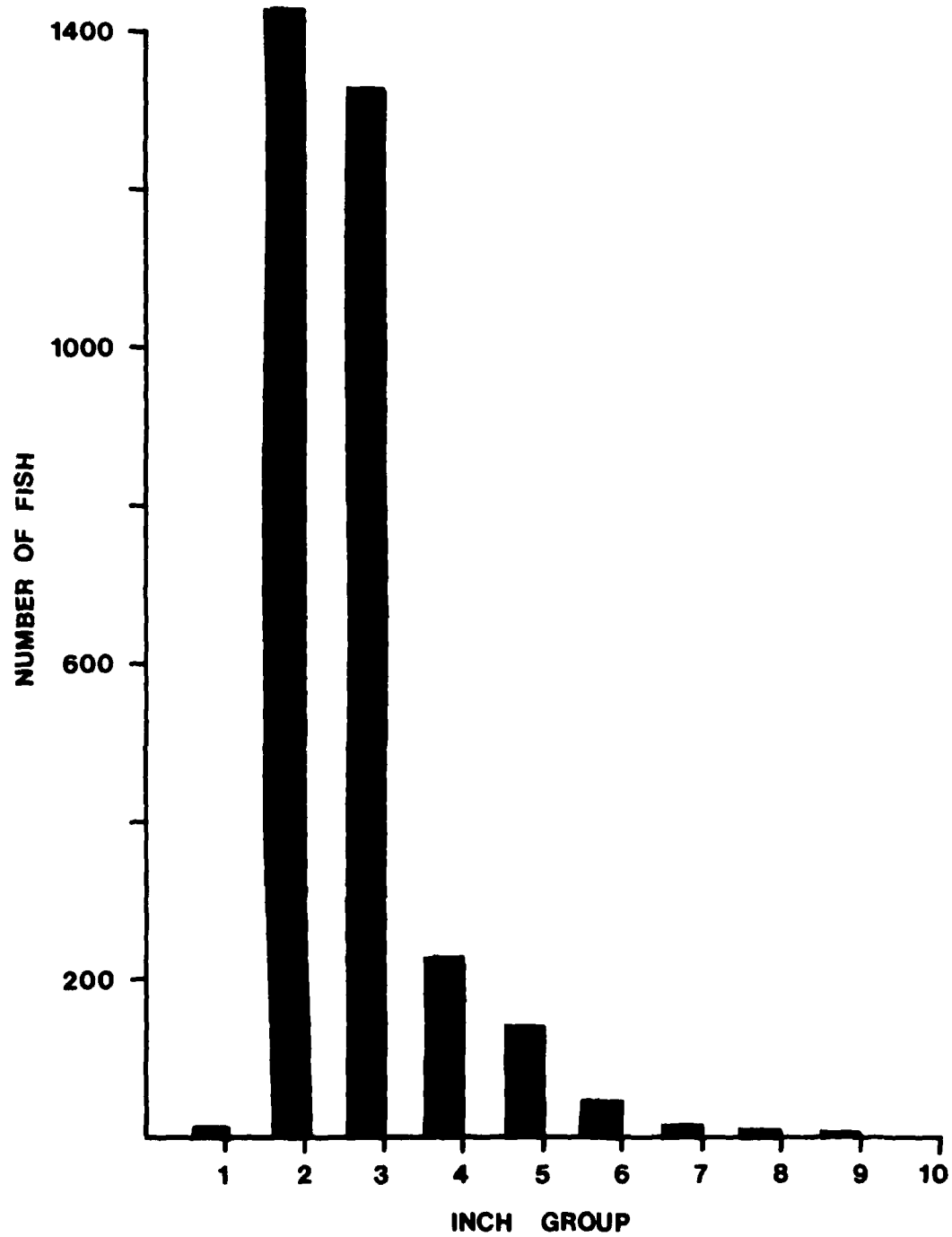


Figure 11. Length-frequency data for bluegill from blocknet samples, Lake Conway, May 1978

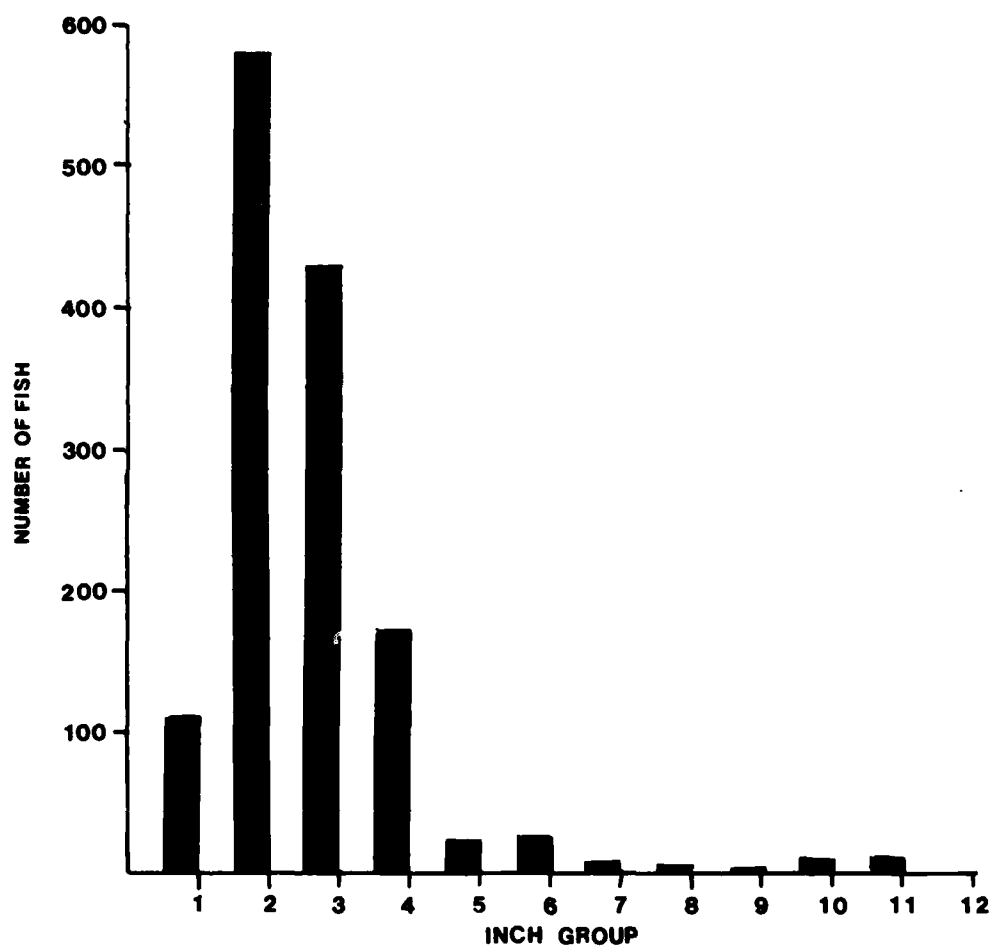


Figure 12. Length-frequency data for redear sunfish from blocknet samples, Lake Conway, October 1977

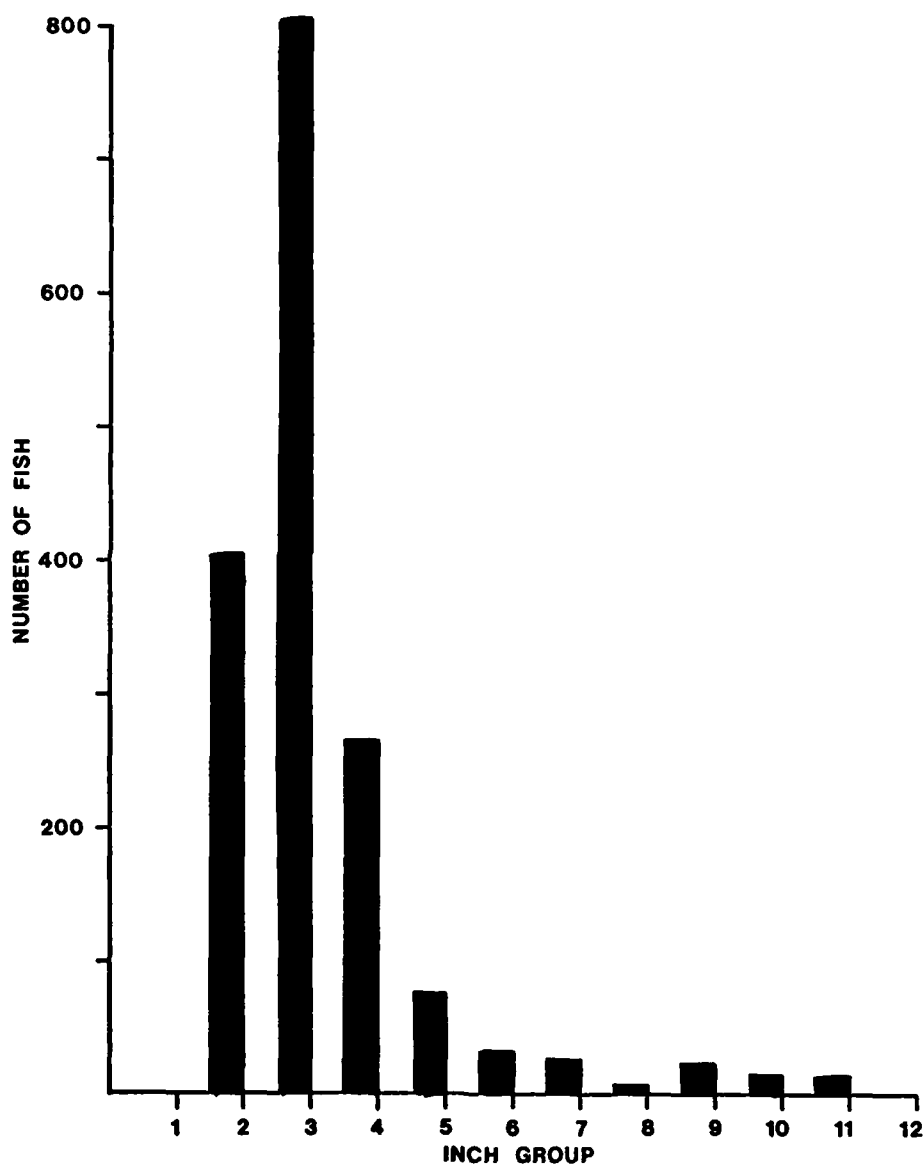


Figure 13. Length-frequency data for redear sunfish from blocknet samples, Lake Conway, May 1978

despite a reduction in effort. Bass fishing effort and success varied quarterly with lowest pressure occurring in the summer, when only 6709 man-hours was expended, a 23 percent decline from summer 1976. Harvest and species-directed success were also considerably lower than for the same quarter in the baseline year.

32. Unidentified fish was the most common prey item of largemouth bass, followed by crayfish (Procambarus sp.), brook silverside, and grass shrimp (Palaemonetes paludosus) (Table A8). Numbers of threadfin shad in largemouth bass stomachs declined from 1976-77; no cannibalism was observed during 1977-78. By weight, redear sunfish was the principal food item followed by bluegill, unidentified fish, lesser siren (Siren lacertina), and unidentified Lepomis. Weight of redear sunfish and bluegill consumed by largemouth bass increased considerably from 1976-77; weight of crayfish ingested by bass declined from the baseline year. Unidentified fish were observed in 29 percent and crayfish were found in 7 percent of largemouth bass stomachs; no other food item was encountered in more than 5 percent of the species examined. Numbers of unidentified fish and crayfish in bass stomachs decreased slightly between years. More food items were observed in stomachs during the summer; fall quarter produced greatest total weight of prey organisms due to increased consumption of redear sunfish and bluegill.

33. Crustaceans comprised 53 percent by number in 1977-78 of food items of bluegill, an increase of 33 percent over the baseline year (Table A9). Cladocerans, copepods, and amphipods increased numerically in stomachs from 1976-77. Insects, primarily chironomid larvae and pupae, comprised 36 percent of organisms consumed. Crustaceans were observed in 98 percent of bluegill stomachs examined. Insects were found in 95 percent of the specimens examined; dipterans were observed in 84 percent of bluegill stomachs, with chironomids the most commonly represented family. Total number of organisms per 100 stomachs was similar in both years. More food items were observed in spring and fall. From March through May increased numbers of crustaceans were ingested, while from September through November more chironomids were taken. Average total number of crustaceans and insects ingested during 1977-78

increased from the baseline year. Numerical percentage of crustaceans increased while percent by number of insects declined from 1976-77. Other common items were trichoptera larvae, hydracarinids, and planorbid snails.

34. Fish comprised 90 percent by number and 97 percent by weight of food items of chain pickerel (Table A10). Unidentified fish was the most numerous prey item, followed by unidentified Lepomis, brook silver-side, and bluegill. By weight bluegill was the most common species consumed, constituting 39 percent of pickerel stomach contents; sunfish (excluding largemouth bass) accounted for 63 percent of weight ingested. Chain pickerel was the second most abundant food item by weight. No organism was found in more than 14 percent of stomachs examined. Number and weight of unidentified fish (Lepomis spp.) and redear decreased in pickerel diets while weight of bluegill taken increased considerably from the baseline year. Total number and weight of prey items per 100 fish decreased between years. More food items were consumed during winter months; greater weight of food items was observed in summer samples due to predation on larger bluegill.

35. Crustaceans numerically dominated stomach contents of bluefin killifish (79 percent) followed by insects (17 percent) (Table A11). Ostracods, the most numerous prey item, comprised 40 percent by number of the diet and occurred in 48 percent of fish examined. Copepods were the second most abundant food item and were found in 40 percent of bluefin killifish stomachs. Chironomid larvae were the principal insect consumed constituting 16 percent by number of the diet. More items were observed in stomachs taken during winter months due to increased ingestion of copepods. Ostracods dominated spring stomach samples; insects were common during fall and winter. Average total number of prey items declined considerably from 1976-77 due to a dramatic reduction in consumption of cladocerans.

36. White amur fed almost exclusively on vegetation (Table 4). Sixteen fish less than 500 mm consumed primarily hydrilla; 12 fish over 500 mm had eaten principally Illinois pondweed and nitella. Other plant species and animal food were taken in negligible amounts.

37. Because weight of an individual fish is dependent on its length, these parameters must be considered as covariants in statistical analyses (Herke 1959). Adjusted mean weights determined from yearly length-weight regressions would correspond to an average yearly weight had all fish been of equal length; this value adjusts the mean weight for variation in lengths of fish between sampling intervals. Quarterly length-weight regressions for largemouth bass, bluegill, and chain pickerel are presented in Table 5. Yearly length-weight regressions for all largemouth bass were:

$$1976-77 \log (\text{weight}) = -5.18 + 3.11 \log (\text{length}) \quad (5)$$

$$1977-78 \log (\text{weight}) = -5.33 + 3.25 \log (\text{length}) \quad (6)$$

Analysis of covariance revealed a significant difference in slopes (growth rates) and adjusted weights between years ( $p < 0.01$ ). For bluegill:

$$1976-77 \log (\text{weight}) = -5.33 + 3.25 \log (\text{length}) \quad (7)$$

$$1977-78 \log (\text{weight}) = -5.25 + 3.20 \log (\text{length}) \quad (8)$$

There was no difference in slope between years; however, the adjusted mean weight for the baseline year was significantly higher than for year two. For chain pickerel:

$$1976-77 \log (\text{weight}) = -5.12 + 2.93 \log (\text{length}) \quad (9)$$

$$1977-78 \log (\text{weight}) = -4.38 + 2.63 \log (\text{length}) \quad (10)$$

A significant difference in the slopes of the regression lines was found between years, but adjusted mean weight did not differ significantly.

38. Quarterly condition factors for largemouth bass, bluegill,

and chain pickerel are presented in Table 6. No largemouth bass greater than 300 mm in total length were captured from June through August 1978. Condition factors for bass less than 300 mm were consistently lower in 1977-78 than in the previous year, while no trend was apparent in larger fish. The mean yearly condition factor for largemouth bass less than 300 mm during 1977-78 was 1.03, significantly less ( $p < 0.01$ ) than between years in condition factors for bass greater than 300 mm (1.30 in 1976-77 vs. 1.34 in 1977-78). Mean condition factors for all bluegill categories were lower in 1977-78 except for June through August where the value of 2.42 was calculated from only 15 individuals. The mean 1977-78 condition factor of 1.40 for bluegill less than 125 mm in total length was significantly lower ( $p < 0.01$ ) than the first year value of 1.47. The condition factor of larger bluegill for both years was 1.59; however, a significant difference between years was noted by the Kruskal-Wallis test. The mean second year condition factor for chain pickerel (0.58) was significantly larger ( $p < 0.01$ ) than in the 1976-77 mean (0.52).

#### Waterfowl and Wading Birds

39. Forty-one species of waterfowl and wading birds were observed during 1976-78 with a mean of 1007.1 individuals per month (Table A12). Average number per month was lower in 1977-78 than in the baseline year, 1976-77. November through February produced the largest numbers due to the influx of migratory waterfowl, with American coot, ringed-neck ducks, and ringed-bill gulls (Larus delawarensis) the most numerous species observed during this period. Species common throughout the year were mallard, muscovy duck (Cairina moschata), common gallinule, red-winged blackbird (Agelaius phoenicius), and boat-tailed grackle (Quiscalus major). Fewer species of migratory waterfowl were observed during 1977-78. Numbers of American coots per month declined 58 percent while no redheads (Aythya americana), canvasbacks (Aythya valisneria), baldpates (Anas americana), blue-winged teal (Ahan discor) and lesser scaup (Aythya affinis) or nine other principal nonmigratory species were

sighted. Principal wading birds present were great blue heron (Ardea herodias), green heron (Butorides striatus), great egret (Casmerodius albus), and Louisiana heron (Egretta tricolor).

40. Gizzards from four species of waterfowl revealed ten plant species and nine animal taxa (Table 7). Forty-four American coot gizzards contained 18 percent identifiable plant food by volume. Leaves and stems of hydrilla and Illinois pondweed were the most commonly encountered food items, with hydrilla accounting for 14 percent by volume of all gizzards examined. Nitella oogonia were found in 23 percent of the specimens but constituted a small volume. Mallards and Florida ducks fed heavily on seeds, principally Illinois pondweed and wax myrtle (Myrica cerifera) seeds. Vegetative portions of Illinois pondweed were observed in half of the gizzards and comprised 9 percent of total volume. Ringed-neck ducks consumed primarily nitella oogonia, with Illinois pondweed seeds the second most abundant food item. Common gallinule gizzards contained the lowest percentage of identifiable plant food; Illinois pondweed was the most common item. With the exception of one mallard which had consumed several snails (Physidae), volume of animal food was insignificant in the waterfowl diets.

#### Aquatic Mammals

41. Results from bimonthly trapping are presented in Table 8. Sherman traps captured primarily hispid cotton rats, but with low success (0 to 15 percent); three rice rats were also taken in this type trap. Raccoons and opossums were the principal larger mammal species captured. One marsh rabbit (Sylvilagus palustris) was captured by Tomahawk trap; however, this specimen apparently blundered into the trap. Forty-seven Neofiber traps set for Florida water rats produced nine of these mammals, with success per site varying from 0 to 60 percent (Figure 14). Only one specimen was recaptured.

42. Numbers of Florida water rat houses observed were quite variable, ranging from 39 in January at the west pool site to zero in March at all locations. Water depth at nest sites varied with lake level, but

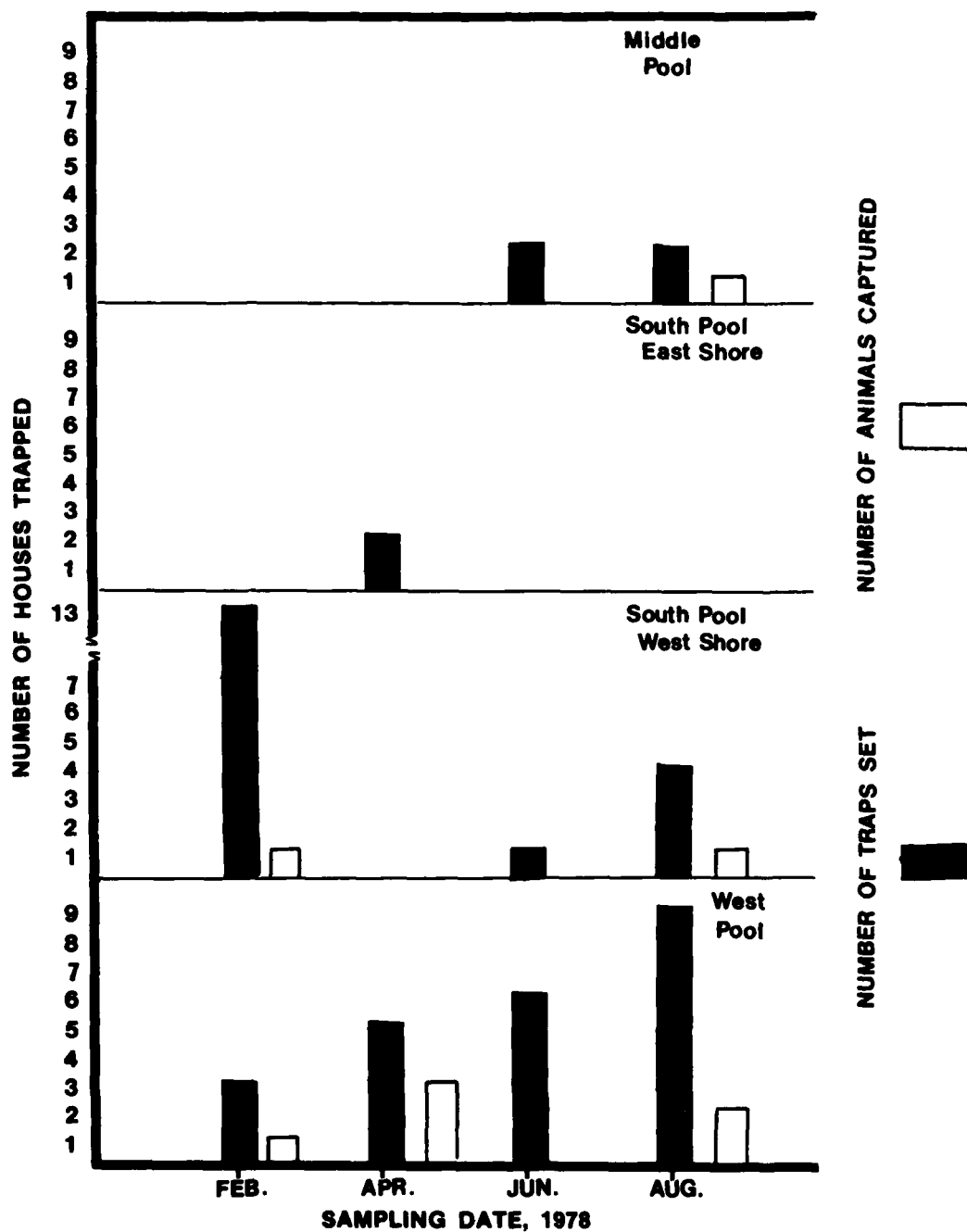


Figure 14. Number of Florida water rats (*Neofiber alleni*) captured vs. number of houses trapped, Lake Conway, February - August 1978

was generally less than 0.5 m. Houses were hemispherical, and most contained two plungeholes through which the animal entered or left the nest. Plants used to construct houses varied with availability. Maidencane and pickerelweed were generally preferred; however, cattail roots, fuirena, Illinois pondweed, waterhyacinths (Eichhornia crassipes), sawgrass (Cladium jamaicense), and waterprimrose (Ludwigia sp.) were also utilized. Florida water rats on Lake Conway often constructed houses in areas of dense vegetation near food sources. Pontederia cordata and Eichhornia crassipes communities generally were sought, as indicated by Ivlev's Index (Table 9); maidencane and torpedograss (P. repens), although reported to be a major food source (Birkenholz 1963), were selected against except where they occupied almost the entire site.

## PART IV: DISCUSSION

### Fish Populations

43. Low water levels that reduced the vegetation littoral zone exerted the greatest influence on fish populations in Lake Conway. At some sampling sites, remaining littoral vegetation was almost entirely maidencane or fuirena over a sand bottom. The submersed stems did not provide ideal fish habitat. Although weight of shallow water fish collected for 1977-78 was similar to the baseline value, lower Shannon-Weaver and species evenness values in Wegener ring samples indicated a decrease in diversity. Fewer numbers of species were collected in 3.0-m seine sampling during much of 1977-78. Percentage by weight of Lepomis spp. captured declined from 31 to 11 percent between years, the reduction most evident in winter when the littoral zone shrank considerably. Apparently, insufficient cover for fish and poor substrate for food organisms forced many sunfish to seek cover in submerged vegetation.

#### Seine

44. Beach sites were gently sloped and consequently declined dramatically in areas with lower water levels. Total number and weight of Seminole killifish were significantly lower in 6.0-m seine samples in 1977-78 than in the baseline year, as reduced habitat forced beach inhabitants to seek shelter in remaining littoral vegetation. Seminole killifish increased in 3.0-m seine hauls in vegetated areas, and two species associated with nonvegetated habitats (brook silverside and coastal shiner) increased in diets of largemouth bass. Bass were observed feeding at the edge of sand beaches, and, as the lake level receded, beach species became more susceptible to predation. Reduced abundance of Seminole killifish in bass stomachs was probably due to fewer fish and an elevated mean for the baseline year resulting from a large value in one month.

#### Gill net and creel survey

45. Gill net sampling revealed a sizable pelagic population of

largemouth bass, with captured fish averaging 0.49 kg. Although this method was size selective, blocknet data and creel observations corroborated an abundance of fish of this size. Anglers were observed harvesting schooling bass feeding on brook silverside and threadfin shad. Preliminary analysis of largemouth bass length-frequency data from blocknets using probability paper (Cassie 1954) indicated six modes among fish up to 480 mm. Four or five modes corresponding to year classes 0-III+ or 0-IV might be expected. Although interrupted spawning due to cold weather may lead to a multimodal distribution in single year classes (McNew and Summerfelt 1978), it is more likely that largemouth bass in Lake Conway have had growth rates reduced by expending large amounts of energy pursuing pelagic prey in the absence of adequate sunfish forage in the littoral zone.

46. Angler success for largemouth bass improved despite reduced effort, the greatest reduction occurring in the summer quarter. Observations during the creel census indicated that most bass harvested were taken from schools; however, schooling bass were observed less frequently during 1977-78 than in the baseline year, and the 58 percent decline in angler effort may be attributable to this factor and to the lower water levels in canals that restricted movement between lakes in the chain. The lower success rate for bream in 1977-78 resulted in part from an inflated success rate for one quarter of the baseline period that elevated the yearly mean (Guillory et al. 1977).

#### Electrofishing

47. The significant decline in weight collected by electrofishing vegetated areas was due primarily to a reduction in sportfish. Average percent by weight of largemouth bass, redear sunfish, bluegill, and chain pickerel declined 65, 54, 48, and 58 percent, respectively, in 1977-78. Lower productivity and reduced cover of the littoral zone led to fewer larger centrarchids, the preferred prey of bass and pickerel. Largemouth bass fed on generally smaller organisms during 1977-78 than in the baseline year; the most abundant and commonly encountered item, unidentified fish, averaged 1.4 g. Average weights of redear sunfish, bluegill, and unidentified Lepomis in bass stomachs were 102, 15.4,

and 8.8 g, respectively. Collectively, these items occurred in only 8.7 percent of fish examined as bass utilized other species. Three of six food organisms that increased in bass diets were generally associated with beach habitats, while 70 percent of organisms with decreased incidence in bass stomachs normally occupied vegetated areas (Guillory et al. 1977). The percentage of empty stomachs increased from 31 to 46 percent between years, and fewer organisms and less weight per stomach were found. The increased dependence of bass on smaller nonsunfish prey was reflected in their poorer condition during 1977-78. Adjusted mean weight was significantly lower than in the baseline year, and the mean condition factor for bass less than 300 mm declined significantly between years. Larger bass (>300 mm) may have consumed fewer but larger prey items and no difference in condition factors between years was observed. The greater growth rate in bass in 1977-78 probably resulted from sampling smaller fish where growth is more rapid.

48. Adjusted mean weight of chain pickerel did not differ significantly between years; however, growth rate and condition factor increased despite fish feeding less frequently than in 1976-77. Pickerel inhabit vegetation to a greater degree than do largemouth bass and were able to feed on small sunfish present. Chain pickerel stomachs contained 50 percent more prey items of the genus Lepomis than did largemouth bass, but, average weight of sunfish consumed by pickerel (8 g) was much less than for bass (25 g). Apparently, largemouth bass consumed larger sunfish in shallow water while chain pickerel utilized smaller centrarchids that sought shelter in submerged vegetation.

49. Electrofishing samples revealed a more diverse fish population in vegetated areas than beach sites: all diversity indices were consistently larger for vegetated samples. This was due to better habitat for smaller individuals and increased productivity leading to greater numbers and size of secondary and tertiary carnivores. Continued reduction or removal of littoral vegetation will likely result in a less diverse fish population and sportfish in poorer condition.

#### Blocknet

50. Blocknet data indicated that sportfish comprised the majority

of the standing estimated crop of 109.19 kg/ha. Numerically, the forage base was dominated by bluespotted sunfish, a species closely associated with submerged vegetation and relatively inaccessible to largemouth bass. This fish, which rarely exceeds 30 mm, appeared in less than 5 percent of bass stomachs examined despite comprising 63 percent by number and 15 percent by weight of blocknet samples. Additionally, stunted bluegill and redear sunfish populations further limited forage available for sportfish. The adjusted mean weight and condition factor for bluegill decreased significantly from the baseline year. The decline in condition factor was greater in fish less than 125 mm in total length. Mean condition factor for larger bluegill was slightly greater in 1977-78 than in the baseline year. However, the greater condition factor of 2.42 for June through August was based on only 15 fish, which inflated the mean. Numerical ranking of condition factors, the basis for the Kruskal-Wallis test, revealed that the majority of larger values were from 1976-77, indicating better condition of large bluegill in the baseline year. Reduced area and productivity of the littoral zone probably led to the worsened condition for some sizes. Although zooplankton accounted for a greater portion of bluegill diets in 1977-78, this increase may be attributed to sampling smaller fish rather than reduced consumption of benthic invertebrates. Stunting of sunfish was probably increased by greater survival as young sunfish moved into submerged vegetation in deeper water. Blocknet samples from these habitats revealed excellent reproduction of bluegill and redear sunfish and survival of many intermediates. If white amur continue to consume submerged vegetation, an increased forage supply for sportfish may result. However, without adequate littoral vegetation, the increased food supply is likely to be temporary as sunfish populations are depleted by predation. Elimination of cover may result in an increase in nonforage species, such as Florida gar and gizzard shad taken in abundance from limnetic habitats.

#### Waterfowl and Wading Birds

51. Reduced numbers of waterfowl and wading birds in 1977-78 from

that of the baseline year (1976-77) was due primarily to fewer American coots. Ringed-neck ducks, the other abundant migratory species, increased in 1977-78 from the previous year. General trends in waterfowl abundance may be estimated by statewide harvest per hunter per hunter-day. Seasonal American coot harvest decreased from 1.43 per adult hunter in 1976-77 to 0.54 per adult hunter in 1977-78, with daily harvest declining from 0.22 coots per hunter per hunter-day in 1976-77 to 0.09 coots per hunter per hunter-day the following winter. The 59 percent decrease in daily harvest is in close agreement with the 58 percent decline in numbers of American coots observed during the first poststocking year, 1977-78.

52. None of the gizzards examined had more than trace amounts of animal food, although Cottman (1939) reported 19.53 percent by volume of animal food in ringed-neck ducks, and Martin and Uhler (1939) found almost 25 percent animal food in game ducks in the gulf coast region. This discrepancy may be due to examination of gizzards, which, by their grinding action, quickly render soft food items unidentifiable. Berg (1949) and Krull (1970) have discussed the relationships of invertebrate organisms to aquatic macrophytes, and it seems likely that waterfowl on Lake Conway would utilize this food source. Future analysis of esophageal contents of waterfowl should resolve this question.

53. Comparison of food items of white amur and waterfowl revealed competition for items consumed. Reduction of preferred waterfowl foods by white amur seems likely to adversely affect waterfowl populations.

#### Aquatic Mammals

54. Shoreline development has affected aquatic mammal populations on Lake Conway. All but two of the larger mammals were captured from the two undeveloped sites. Hispid cotton rats, the principal mammal captured, seemed less affected by human activity and were captured at all sites. However, Wiegert and Mayenschein (1966) noted cotton rats to inhabit a very small range under certain conditions, occupying small areas of suitable habitat.

55. Populations of Florida water rats were affected primarily by water level (Figure 15) since their houses were located in emergent vegetation. Nest abundance varied directly with water level except in March when all houses were flooded. In drier months, shoreline tunnels were observed where the animals had apparently burrowed. Schwartz (1952), Birkenholz (1963), and Tilmant (1975) have all reported burrowing activity by Florida water rats in response to falling water levels. The strong selection of waterhyacinth communities as nest sites in certain locations is also noteworthy. At one site, nests were initially distributed over a 500-m length of shoreline. As water level receded and home and beach construction accelerated, the only nests located were in a solitary patch of waterhyacinth. Nests in floating plants provide protection against flooding and falling water levels and may be an adaptation whenever the substrate is unsuitable for burrowing.

56. Generally, pickerelweed had the highest selection value for house locations, probably due to its food value and potential for shelter. Many houses were constructed of pickerelweed leaves and stems with the intact plant pulled over the nest to provide cover. Florida water rats avoided building nests in maidencane, except where this species was present almost exclusively. However, nests in other stands of vegetation contained maidencane, and its importance as a food source has been documented (Birkenholz 1963). The animals preferred sturdier plants such as cattail or pickerelweed, which provide greater shelter; in general, Florida water rats built nests in heavy cover near food sources, a phenomenon also observed by Tilmant (1975).

57. Apparently each Florida water rat built several nests; trapping data indicated approximately five nests per animal captured, considerably more than two per animal as reported by Birkenholz (1963). From these data, it appears that Florida water rats can withstand water level fluctuations, but elimination of littoral vegetation would adversely affect the populations.

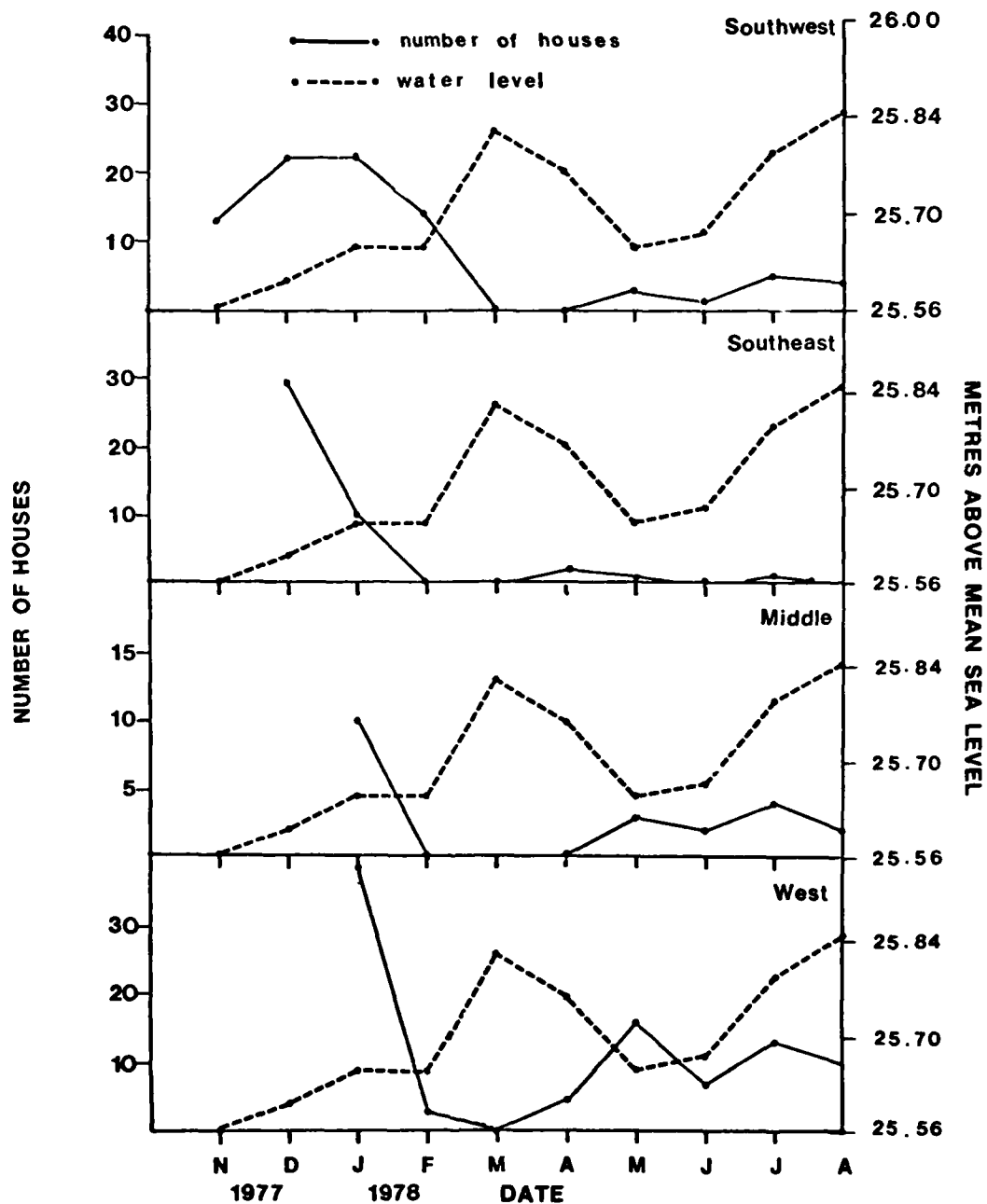


Figure 15. Monthly variation in number of houses of the Florida water rat (*N. alleni*) on Lake Conway, November 1977 - August 1978

## PART V: CONCLUSIONS AND RECOMMENDATIONS

### Fish Populations

58. Reduced littoral zone area due to low water levels contributed to stunting of sunfish populations as fish sought shelter in deeper submerged vegetation. Largemouth bass less than 300 mm were in relatively poorer condition in 1977-78 than in the baseline year, 1976-77, probably due to lack of availability of suitable forage and consequent dependence on smaller pelagic prey. Bluegill condition decreased in 1977-78, probably in response to reduced littoral areas and the attendant decline in productivity of the littoral zone. Chain pickerel occupied vegetated areas and consumed small sunfish; mean condition factors of pickerel increased from the baseline year. Condition factors of largemouth bass over 300 mm did not differ significantly between years; this size class utilized larger prey items. Stomach contents of fish of selected length groups from different areas should be examined to pinpoint changes in stress imposed by vegetation community alteration.

59. Fishing pressure was lower during 1977-78, possibly due to an apparent decrease in the schooling activity of bass and reduced navigability of canals connecting the lakes which hindered angler movement; however, angler success was greater than in the previous year. Type of habitat where fish were caught should be noted with creel data to determine relative success rates as well as usage of the littoral zone.

60. White amur fed upon submerged vegetation, and ingestion of animal food appeared to be incidental. Attempts should be made to sample fish from each lake in the chain to further assess dietary preference.

61. Because vegetated areas produced more diverse fish communities on Lake Conway, electrofishing samples should be taken in each pool to assess relationships between different vegetation communities and fish species composition. Since limnetic fish are an important part of the population, gill nets should be set continuously for 48 hr to determine

diurnal movement of pelagic species. Additionally, qualitative stomach analysis should be performed on captured specimens. Due to monthly variability of habitat at sampling sites, seine samples should be discontinued.

#### Waterfowl and Wading Birds

62. Fewer waterfowl and wading birds were observed during 1977-78 than in the baseline year. American coot, the principal migratory species, declined in abundance statewide according to harvest per hunter per hunter-day data, and its reduction on Lake Conway corresponds with this trend. Continued consumption of preferred waterfowl foods by white amur may adversely affect overwintering of waterfowl populations. Trace amounts of animal food were observed in gizzards of sampled waterfowl; to avoid bias against soft food items, esophagi should be examined where possible. If animal food is determined to be important to overwintering ducks and coots, the effects of removal of plant communities that harbor invertebrate organisms should be examined.

#### Aquatic Mammals

63. Aquatic mammal abundance was limited by habitat removal due to house building and shoreline development. Florida water rats adapted to falling water levels by burrowing or building nests in floating vegetation. Shoreline development and removal of littoral vegetation will probably harm populations of the Florida water rat species.

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Table 1. Average Numbers, Weights, and Percentages Per Hectare of Fish in Blocknets from Lake Conway, 1976-78

Sampling Date	<u>Sportfish</u>		<u>Forage</u>		<u>Other</u>	
	No.	Wt. (kg)	No.	Wt. (kg)	No.	Wt. (kg)
October 1977	3,359.60	(16.68)	63.60	(63.42)	16,765.90	(83.23) 36.20 (36.03) 19.20 (0.10) 0.48 (0.48)
May 1978	12,135.90	(21.93)	89.80	(75.65)	43,062.60	(77.83) 27.40 (23.08) 133.30 (0.24) 1.50 (1.24)
Mean 77-78	7,747.80	(19.30)	76.70	(69.50)	29,914.20	(79.27) 31.80 (29.04) 76.20 (0.20) 0.99 (0.90)
Mean 76-77	7,545.00	(18.13)	77.20	(75.10)	33,772.65	(81.14) 23.52 (22.88) 302.80 (0.73) 2.08 (2.02)

( ) = percentage of blocknet total

Sportfish - Largemouth bass, Bluegill, Redear sunfish, Black crappie, Warmouth, Chain pickerel

Forage - Gizzard shad, Threadfin shad, Golden shiner, Coastal shiner, Tadpole madtom, Seminole killifish, Flagfish, Bluefin killifish, Brook silverside, Bluespotted sunfish, Dollar sunfish, Swamp darter

Other - Florida gar, Lake chubucker, Brown bullhead, Yellow bullhead

Table 2. Average Numbers, Weights, and Percentages of Harvestable Sportfish Per Hectare in Blocknet Samples from Lake Conway, 1976-78

Species*	October 1977			May 1978			Mean 77-78			Mean 76-77						
	No.	Wt. (kg)	No.	No.	Wt. (kg)	No.	No.	Wt. (kg)	No.	No.	Wt. (kg)					
Largemouth bass	38.7	(0.19)	23.6	(23.84)	31.3	(0.06)	16.2	(13.78)	35.0	(0.12)	19.9	(18.81)	33.3	(0.12)	17.7	(17.36)
Bluegill	59.3	(0.29)	6.0	(6.06)	54.3	(0.10)	4.0	(3.37)	56.8	(0.20)	5.0	(4.72)	37.4	(0.12)	3.1	(1.97)
Redear sunfish	47.7	(0.24)	7.8	(7.89)	99.6	(0.18)	15.9	(13.55)	73.7	(0.21)	11.9	(10.72)	67.1	(0.25)	10.4	(8.46)
Black crappie	-	-	-	-	-	-	-	-	-	-	-	-	0.40	(0.01)	0.50	(0.02)
Warmouth	16.5	(0.08)	0.74	(0.75)	18.9	(0.03)	1.5	(1.26)	17.7	(0.05)	1.1	(1.00)	2.6	(0.02)	0.35	(0.22)
Chain pickerel	6.6	(0.03)	2.5	(2.58)	29.6	(0.05)	11.3	(9.62)	18.1	(0.04)	6.9	(6.10)	16.9	(0.06)	6.7	(6.70)
Total	168.8	(0.83)	40.6	(41.12)	233.7	(0.42)	48.9	(41.58)	201.3	(0.62)	44.8	(41.35)	157.8	(0.58)	38.3	(34.73)

( ) = percent of blocknet total

\*Species size:

Largemouth bass >25.9 cm  
 Bluegill >15.0 cm  
 Redear sunfish >15.0 cm  
 Black crappie >22.5 cm  
 Warmouth >12.5 cm  
 Chain pickerel >30.0 cm

Table 3. Quarterly Sport Fishery Estimates From Creel Census Data For Lake Conway, 1977-78

		Largemouth Bass	Bream	Black Crappie	Chain Pickerel	Others <sup>1</sup>	Total 77-78	Total 76-77
Summer 1977	S	0.09	0.14	0.00	0.02	0.01	0.21	0.45
	S <sup>1</sup>	0.10	0.83	0.00	0.80*	0.00		
	E	6,709	1,097	170	16	35	8,027	18,961
	H	844	682	00	155	18	1,699	8,620
Fall 1977	S	0.26	0.02	0.05	0.02	0.01	0.34	0.37
	S <sup>1</sup>	0.31	0.54	0.40	0.42*	0.01*		
	E	13,095	442	1,627	289	20	15,473	12,592
	H	3,976	314	732	247	22	5,291	4,666
Winter 1977-78	S	0.24	0.01	0.18	0.03	0.00	0.45	0.33
	S <sup>1</sup>	0.59*	1.28*	1.08*	0.68*	0.00		
	E	7,712	364	2,234	302	544	11,156	13,464
	H	2,579	41	1,978	372	0	4,970	4,505
Spring 1978	S	0.41	0.09	0.05	0.06	0.01*	0.64	0.39
	S <sup>1</sup>	0.49*	1.54	1.24*	0.76*	0.92*		
	E	12,330	1,167	419	186	27	14,129	14,406
	H	6,039	1,355	738	914	60	9,106	5,656
Total	S						0.43	0.39
	S <sup>1</sup>	0.38	1.11	0.81	0.61	0.04		
	E	39,846	3,070	4,450	793	626	48,785	59,423
	H	13,438	2,392	3,448	1,688	100	21,066	23,447

\* = No estimate given by computer

S = Success (number per hour)

S<sup>1</sup> = Species-directed success (number per hour while fishing for that species only)

E = Effort (hours)

H = Harvest (number of fish)

1 = Golden shiner, catfish, bullhead, etc.

Table 4. Percent Volume of Food Items Consumed by White Amur, Lake Conway, 1977-78

Food Items	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug	Mean
<b>Plant</b>													
Hydrilla	-	40.00	-	90.06	65.90	0.52	0.97	37.33	0.01	-	-	-	33.54
Illinois pondweed	-	60.00	99.00	0.04	22.89	98.26	67.24	62.67	-	-	100.00	38.70	60.98
Nitella (vegetative portion)	-	-	1.00	9.80	9.40	T	29.56	-	99.99	-	-	59.82	29.94
Nitella oogonia	-	-	-	T	T	-	T	-	T	-	-	T	T
Elgrass	-	-	-	-	0.72	-	-	-	-	-	-	-	0.72
Cyperus sp. seed	-	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified leaves and stems	-	-	-	-	-	T	0.50	-	T	-	-	-	-
Filamentous algae	-	-	-	0.10	1.08	0.03	-	-	-	-	-	1.48	0.50
<b>Animal</b>													
Amphipoda	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydracarina	-	-	-	-	-	-	-	-	-	-	T	T	T
Tricoptera	-	-	-	-	-	-	-	-	-	-	-	T	T
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	T	T
Corixidae	-	-	-	-	-	-	-	-	-	-	-	-	-
Planorbidae	-	-	-	-	-	-	-	-	-	-	-	-	-

T = trace

Table 5. Quarterly Length-Weight Regressions for Largemouth Bass, Bluegill, and Chain Pickerel in Lake Conway, 1977-78

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Largemouth Bass

Sept. - Nov. '77	Log W = - 5.34 + 3.15 Log T. L.
Dec. '77 - Feb '78	Log W = - 5.83 + 3.38 Log T. L.
March - May '78	Log W = - 5.50 + 3.24 Log T. L.
June - Aug. '78	Log W = - 4.89 + 2.96 Log T. L.

Bluegill

Sept. - Nov. '77	Log W = - 5.19 + 3.17 Log T. L.
Dec. '77 - Feb. '78	Log W = - 5.22 + 3.18 Log T. L.
March - May '78	Log W = - 5.08 + 3.17 Log T. L.
June - Aug. '78	Log W = - 5.73 + 3.42 Log T. L.

Chain Pickerel

Sept. - Nov. '77	Log W = - 5.12 + 2.93 Log T. L.
Dec. '77 - Feb '78	Log W = - 3.09 + 2.12 Log T. L.
March - May '78	Log W = - 5.03 + 2.95 Log T. L.
June - Aug. '78	Log W = - 5.42 + 3.05 Log T. L.

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W = weight (g)

T. L. = total length (mm)

Table 6. Quarterly Condition Factors ( $K_{t1}$ ) of Largemouth Bass, Bluegill, and Chain pickerel in Lake Conway, 1976-78

Length	Year	Sept. - Nov.	Dec. - Feb.	March - May	June - Aug.
<u>Largemouth Bass</u>					
<300 mm	1976-77	1.19	1.11	1.15	1.23
	1977-78	0.99	1.02	1.07	1.07
>300 mm	1976-77	1.34	1.33	1.26	1.22
	1977-78	1.21	1.41	1.30	*
<u>Bluegill</u>					
<125 mm	1976-77	1.58	1.43	1.46	1.39
	1977-78	1.40	1.40	1.44	1.38
>125 mm	1976-77	1.64	1.60	1.57	1.56
	1977-78	1.51	1.53	1.52	2.42
<u>Chain Pickerel</u>					
all	1976-77	0.52	0.50	0.52	0.53
	1977-78	0.56	0.55	0.48	0.51

\* None sampled.

Table 7. Gizzard Contents of Waterfowl From Lake Conway, November 1977 - April 1978

	American Coot (44)			Mallard/ Florida Duck (6)			Ringed-neck Duck (18)			Common Gallinule (4)		
	A	B	C	A	B	C	A	B	C	A	B	C
<b>PLANT FOODS</b>												
<i>Cladium jamaicense</i> seed	-	-	-	16.70	T	T	-	-	-	-	-	-
<i>Cyperus</i> sp. seed	-	-	-	-	-	-	-	-	-	50	0.50	0.25
<i>Eichhornia crassipes</i>	-	-	-	-	-	-	-	-	-	50	10.60	5.30
<i>Hydrilla verticillata</i>	75	18.60	13.90	-	-	-	7.10	T	T	25	T	T
<i>H. verticillata</i> turion	-	-	-	-	-	-	7.10	T	T	-	-	-
<i>Ludwigia</i> sp. seed	4.50	T	T	-	-	-	-	-	-	-	-	-
<i>Myrica cerifera</i> seed	-	-	-	66.70	0.76	0.51	7.10	T	T	25	T	T
<i>Nitella furcata</i>	6.80	20.20	1.40	-	-	-	-	-	-	-	-	-
<i>Nitella furcata</i> oogonia	22.70	1.30	0.30	-	-	-	78.60	8.00	6.30	-	-	-
<i>Nuphar macrophyllum</i> seed	-	-	-	16.70	T	T	-	-	-	-	-	-
<i>Potamogeton illinoensis</i>	36.40	6.60	2.40	50.00	18.60	9.30	-	-	-	50	T	T
<i>P. illinoensis</i> seed	-	-	-	100	14	14	50	1.80	0.90	75	0.67	0.51
<i>Pontederia</i> sp. seed	-	-	-	-	-	-	7.1	T	T	-	-	-
Algae	2.30	T	T	-	-	-	-	-	-	-	-	-
Unidentified roots	-	-	-	16.70	6	1	36	3.90	1.40	-	-	-
Total identifiable plant food	-	-	18.00	-	-	24.81	-	-	8.6	-	-	6.06
<b>ANIMAL FOODS</b>												
Andrenidae	2.3	T	T	-	-	-	-	-	-	-	-	-
Chalcidae	-	-	-	-	-	-	-	-	-	25	T	T
Gastropoda	2.3	T	T	-	-	-	-	-	-	-	-	-
Hymenoptera	2.3	T	T	-	-	-	-	-	-	-	-	-
Leptoceridae	4.5	T	T	16.7	T	T	-	-	-	-	-	-
Libellulidae	-	-	-	16.7	T	T	-	-	-	-	-	-
Noctuidae	-	-	-	-	-	-	-	-	-	25	T	T
Physidae	-	-	-	16.7	24	6	-	-	-	-	-	-
Planorbidae	-	-	-	16.7	T	T	-	-	-	-	-	-
<b>GRIT</b>	100	71.3	71.3	100	65.7	65.7	100	81.4	81.4	100	77.5	77.5

A = % occurrence  
 B = % volume in specimens where encountered  
 C = % volume in all specimens  
 T = Trace  
 ( ) = number sampled

Table 8. Number of Mammals Captured on Lake Conway, February - August 1978

	No. Set	Sherman Traps Species	Sex	No. Set	Tomahawk Traps Species	Sex	No. Set	Neofiber Traps Species	Sex
WEST POOL									
February	20	Hispid cotton rat	0	20	Raccoon	0	3	Florida water rat	1M
		Rice rat	0		Opossum	1F			
April	20	Hispid cotton rat	2*	20	Raccoon	0	5	Florida water rat	3M
		Rice rat	0		Opossum	1*			
June	20	Hispid cotton rat	0	20	Raccoon	0	6	Florida water rat	0
		Rice rat	0		Opossum	1*			
August	20	Hispid cotton rat	0	20	Raccoon	0	9	Florida water rat	1M **
		Rice rat	0		Opossum	1F			1 *
SOUTH POOL - West Shore									
February	20	Hispid cotton rat	0	20	Raccoon	0	13	Florida water rat	1M
		Rice rat	0		Opossum	0			
April	19	Hispid cotton rat	1M	20	Raccoon	0	0	Florida water rat	0
		Rice rat	0		Opossum	0			
June	20	Hispid cotton rat	3M	20	Raccoon	0	1	Florida water rat	0
		Rice rat	0		Opossum	0			
August	20	Hispid cotton rat	1*	20	Raccoon	0	4	Florida water rat	1M
		Rice rat	0		Opossum	0			
SOUTH POOL - East Shore									
February	20	Hispid cotton rat	1*	5	Raccoon	0	0	Florida water rat	0
		Rice rat	0		Opossum	0			
April	20	Hispid cotton rat	0	5	Raccoon	0	2	Florida water rat	0
		Rice rat	1		Opossum	1*			
June	20	Hispid cotton rat	1*	5	Raccoon	0	0	Florida water rat	0
		Rice rat	0		Opossum	0			
August	20	Hispid cotton rat	0	5	Raccoon	0	0	Florida water rat	0
		Rice rat	1		Opossum	1F			
MIDDLE POOL									
February	20	Hispid cotton rat	0	20	Raccoon	0	0	Florida water rat	0
		Rice rat	0		Marsh rabbit	1M			
April	20	Hispid cotton rat	2*	20	Raccoon	0	0	Florida water rat	0
		Rice rat	0		Opossum	0			
June	20	Hispid cotton rat	1*	20	Raccoon	1M - 1*	2	Florida water rat	0
		Rice rat	1*		Opossum	1*			
August	20	Hispid cotton rat	1M	20	Raccoon	1F	2	Florida water rat	1M
		Rice rat	0		Opossum	1*			

\* Unknown sex  
\*\* Recapture

Table 9 . Ivlev's Electivity Index of Vegetation Preference in Nest Sites of Florida Water Kats (Neofiber alleni), Lake Conway, 1978

Site Plant	West Pool			Middle Pool			South Pool, West Shore			South Pool, East Shore				
	March	May	July	Jan.	March	May	July	Jan.	March	May	July			
<u>Cladium jamaicense</u>	*	-1.0		*				*			*			
<u>Eleocharis acicularis</u>	*	+0.16	+0.70	*		-1.0	+0.99	*	-0.03	+0.33	*			
<u>Echinochloa crusgalli</u>	*	-	-1.0	+0.08	*	-1.0	-0.05	*	-1.0	-1.0	*	+0.80	+0.87	
<u>Ludwigia</u> sp.	*	-	-1.0		*	-1.0	+0.92	*	-1.0	-	*	+1.0		
<u>Panicum</u> spp.	*	-0.60	-0.69	-0.31	*	-1.0	-1.0	*	-0.08	-1.0	+0.13	*	+0.30	+0.18
<u>Pontederia cordata</u>	*	+0.50	+0.54	+0.72	*	+0.40	+0.04	0.36	*	-1.0	-1.0	+0.78	*	+0.79
<u>Sagittaria</u> sp.	*	-1.0			*			*			*			
<u>Typha latifolia</u>	*	0	+0.44	-1.0	*	-1.0	+0.72	+0.8	*	-1.0		*		

\* No nests present

- Species not present

APPENDIX A: MONTHLY SAMPLING TABLES

Table A1. Number, Weight (g), and Percentage of Fish Per Wegener Ring, Lake Conway,

Species	September '77		October '77		November '77		December
	No.	Wt.	No.	Wt.	No.	Wt.	No.
Chain pickerel	-	-	0.08	5.82	-	-	-
	-	-	( 0.57)	(17.19)	-	-	-
Golden shiner	-	-	-	-	0.08	0.29	-
	-	-	-	-	( 0.55)	( 3.09)	-
Coastal shiner	0.08	0.05	-	-	0.33	0.11	-
	( 0.46)	( 0.46)	-	-	( 2.26)	( 1.17)	-
Yellow bullhead	-	-	-	-	-	-	-
Brown bullhead	-	-	-	-	-	-	-
Golden topminnow	-	-	-	-	-	-	-
Seminole killifish	1.42	4.46	5.58	22.80	7.00	6.14	-
	( 8.24)	(40.62)	(39.89)	(67.34)	(48.01)	(65.53)	-
Flagfish	-	-	-	-	-	-	-
Bluefin killifish	10.33	1.48	3.00	0.49	0.33	0.13	12.00
	(59.95)	(13.48)	(21.44)	( 1.45)	( 2.26)	( 1.39)	(76.19)
Gambusia	2.00	0.12	2.00	0.37	4.67	1.13	0.92
	(11.61)	( 1.09)	(14.30)	( 1.09)	(32.03)	(12.06)	( 5.84)
Least killifish	0.17	0.02	-	-	-	-	0.08
	( 0.99)	( 0.18)	-	-	-	-	( 0.51)
Sailfin mollie	-	-	-	-	-	-	-
Brook silverside	-	-	-	-	-	-	0.33
	-	-	-	-	-	-	( 2.10)
Bluespotted sunfish	0.17	0.18	-	-	0.33	0.39	0.42
	( 0.99)	( 1.64)	-	-	( 2.26)	( 4.16)	( 2.67)
Warmouth	0.25	2.22	-	-	-	-	-
	( 1.45)	(20.22)	-	-	-	-	-
Bluegill	1.73	0.59	1.08	3.31	0.67	0.23	0.67
	(10.04)	( 5.37)	( 7.72)	( 9.78)	( 4.60)	( 2.45)	( 4.25)
Dollar sunfish	0.08	0.14	-	-	0.67	0.51	0.50
	( 0.46)	( 1.28)	-	-	( 4.60)	( 5.44)	( 3.17)
Redear sunfish	0.08	0.31	0.33	0.23	0.08	0.22	-
	( 0.46)	( 2.82)	( 2.36)	( 0.68)	( 0.55)	( 2.35)	-
Spotted sunfish	-	-	-	-	-	-	-
Largemouth bass	0.17	1.04	-	-	-	-	0.08
	( 0.98)	( 9.47)	-	-	-	-	( 0.51)
Swamp darter	0.75	0.37	1.92	0.84	0.42	0.22	0.75
	( 4.35)	( 3.37)	(13.72)	( 2.48)	( 2.88)	( 2.35)	( 4.76)
Total	17.23	10.98	13.99	33.86	14.58	9.37	15.75

( ) = Percent

Re Conway, 1977-78

December '77		January '78		February '78		March '78		April '78		
No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.
-	-	-	-	-	-	-	-	-	-	0.85
-	-	-	-	-	-	-	-	-	-	( 3.57
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	0.08	0.03	1.92
-	-	-	-	-	-	-	-	( 0.95)	( 0.34)	( 8.25
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	0.83
-	-	-	-	-	-	-	-	-	-	( 3.57
-	-	-	-	-	-	0.08	0.06	0.50	0.86	0.42
-	-	-	-	-	-	( 0.44)	( 1.35)	( 5.93)	( 9.71)	( 1.81
-	-	0.17	0.50	3.30	3.35	0.42	0.38	1.42	3.42	0.50
-	-	( 0.73)	( 6.35)	(50.00)	(55.01)	( 2.31)	( 8.55)	(16.86)	(38.60)	( 2.15
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
12.00	2.08	0.33	0.07	-	-	0.25	0.06	2.58	1.05	2.50
(76.19)	(25.43)	( 1.42)	( 0.89)	-	-	( 1.38)	( 1.35)	(30.64)	(11.85)	(10.75
0.92	0.12	21.17	2.81	2.70	1.55	17.17	3.72	1.26	1.26	14.50
( 5.84)	( 1.47)	(91.09)	(35.66)	(40.91)	(25.45)	(94.50)	(83.78)	(14.96)	(14.22)	(62.31
0.08	0.01	-	-	0.20	0.05	0.08	0.08	2.25	0.49	0.42
( 0.51)	( 0.12)	-	-	( 3.03)	( 0.82)	( 0.44)	( 1.80)	(26.72)	( 5.53)	( 1.81
-	-	0.25	0.25	-	-	-	-	-	-	0.67
-	-	( 1.08)	( 3.17)	-	-	-	-	-	-	( 2.81
0.33	0.09	-	-	-	-	-	-	-	-	-
( 2.10)	( 1.10)	-	-	-	-	-	-	-	-	-
0.42	0.51	-	-	-	-	-	-	-	-	-
( 2.67)	( 6.23)	-	-	-	-	-	-	-	-	-
-	-	-	-	0.20	0.90	-	-	-	-	-
-	-	-	-	( 3.03)	(14.78)	-	-	-	-	-
0.67	1.09	0.58	1.58	0.10	0.18	-	-	-	-	-
( 4.25)	(13.33)	( 2.50)	(20.05)	( 1.52)	( 2.96)	-	-	-	-	-
0.50	0.74	-	-	-	-	-	-	0.08	0.08	-
( 3.17)	( 9.05)	-	-	-	-	-	-	( 0.95)	( 0.90)	-
-	-	0.33	0.97	-	-	-	-	0.17	0.79	0.08
-	-	( 1.42)	(12.31)	-	-	-	-	( 2.02)	( 8.92)	( 0.31
-	-	-	-	-	-	-	-	0.08	0.88	-
-	-	-	-	-	-	-	-	( 0.95)	( 9.93)	-
0.08	3.12	0.08	1.53	-	-	-	-	-	-	0.21
( 0.51)	(38.14)	( 0.34)	(19.42)	-	-	-	-	-	-	( 1.01
0.75	0.42	0.33	0.17	0.10	0.06	0.17	0.14	-	-	0.31
( 4.76)	( 5.13)	( 1.42)	( 2.16)	( 1.52)	( 0.99)	( 0.94)	( 3.15)	-	-	( 1.41
15.75	8.18	23.24	7.88	6.60	6.09	18.17	4.44	8.42	8.86	23.21

2

	May '78		June '78		July '78		Aug. '78		Mean 77-78	
	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
	0.83	0.75	-	-	-	-	-	-	0.08	0.55
	( 3.57)	( 6.30)	-	-	-	-	-	-	( 0.53)	( 4.75)
	-	-	-	-	-	-	-	-	0.01	0.02
	-	-	-	-	-	-	-	-	( 0.07)	( 0.17)
13	1.92	1.13	0.25	0.25	-	-	0.08	0.08	0.23	0.14
14	( 8.25)	( 9.50)	( 3.46)	( 3.29)	-	-	( 0.39)	( 0.39)	( 1.54)	( 1.21)
	-	-	0.08	0.07	-	-	-	-	0.01	0.01
	-	-	( 1.11)	( 0.92)	-	-	-	-	( 0.07)	( 0.09)
	0.83	0.03	-	-	-	-	-	-	0.07	0.01
	( 3.57)	( 0.25)	-	-	-	-	-	-	( 0.47)	( 0.09)
16	0.42	1.38	0.33	0.62	0.25	0.13	0.83	0.42	0.20	0.29
71	( 1.81)	(11.60)	( 4.57)	( 8.15)	( 2.44)	( 1.41)	( 4.07)	( 2.04)	( 1.34)	( 2.50)
12	0.50	2.08	0.58	1.68	1.42	2.60	1.17	3.18	1.92	4.22
10	( 2.15)	(17.48)	( 8.03)	(22.08)	(13.84)	(28.14)	( 5.74)	(15.47)	(12.83)	(36.41)
	-	-	-	-	-	-	0.08	0.07	0.01	0.01
	-	-	-	-	-	-	( 0.39)	( 0.34)	( 0.07)	( 0.09)
05	2.50	0.93	1.08	0.51	1.17	0.76	1.25	0.76	2.90	0.69
85	(10.75)	( 7.82)	(14.96)	( 6.70)	(11.40)	( 8.23)	( 6.13)	( 3.70)	(19.39)	( 5.95)
26	14.50	3.99	4.50	1.83	5.75	2.48	12.25	2.76	7.41	1.85
22	(62.37)	(33.53)	(62.07)	(24.05)	(56.04)	(26.84)	(60.05)	(13.43)	(49.53)	(15.96)
49	0.42	0.10	-	-	0.42	0.11	0.58	0.08	0.35	0.08
53	( 1.81)	( 0.84)	-	-	( 4.09)	( 1.19)	( 2.84)	( 0.39)	( 2.34)	( 0.69)
	0.67	0.65	-	-	-	-	0.08	0.08	0.08	0.08
	( 2.88)	( 5.46)	-	-	-	-	( 0.39)	( 0.39)	( 0.53)	( 0.69)
	-	-	-	-	-	-	-	-	0.03	0.01
	-	-	-	-	-	-	-	-	( 0.20)	( 0.09)
	-	-	0.08	0.08	0.50	0.46	0.75	0.47	0.19	0.17
	-	-	( 1.15)	( 1.05)	( 4.87)	( 4.98)	( 3.68)	( 2.29)	( 1.27)	( 1.47)
	-	-	-	-	0.25	1.52	0.58	8.25	0.11	1.07
	-	-	-	-	( 2.44)	(16.45)	( 2.84)	(40.15)	( 0.74)	( 9.23)
	-	-	0.08	0.58	0.08	0.42	0.42	2.38	0.46	0.86
	-	-	( 1.15)	( 7.62)	( 0.78)	( 4.55)	( 2.06)	(11.58)	( 3.07)	( 7.42)
08	-	-	-	-	0.17	0.68	-	-	0.13	0.18
90	-	-	-	-	( 1.65)	( 7.36)	-	-	( 0.80)	( 1.55)
79	0.08	0.38	-	-	-	-	0.08	1.10	0.10	0.33
12	( 0.34)	( 3.19)	-	-	-	-	( 0.39)	( 5.35)	( 0.67)	( 2.85)
88	-	-	0.08	1.82	-	-	-	-	0.01	0.22
93	-	-	( 1.15)	(23.92)	-	-	-	-	( 0.07)	( 1.90)
	0.25	0.34	0.08	0.14	-	-	-	-	0.06	0.51
	( 1.08)	( 2.86)	( 1.15)	( 1.84)	-	-	-	-	( 0.40)	( 4.40)
	0.33	0.14	0.08	0.03	0.25	0.08	2.25	0.92	0.61	0.28
	( 1.42)	( 1.18)	( 1.15)	( 0.39)	( 2.44)	( 0.87)	(11.03)	( 4.48)	( 4.08)	( 2.41)
86	23.25	11.90	7.22	7.61	10.26	9.24	20.40	20.55	14.97	11.58

June '78	July '78		Aug. '78		Mean 77-78		Mean 76-77	
	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.
-	-	-	-	-	0.08	0.55	0.01	0.01
-	-	-	-	-	( 0.53)	( 4.75)	( 0.05)	( 0.09)
-	-	-	-	-	0.01	0.02	0.03	0.01
-	-	-	-	-	( 0.07)	( 0.17)	( 0.14)	( 0.09)
0.25	-	-	0.08	0.08	0.23	0.14	1.37	0.54
( 3.29)	-	-	( 0.39)	( 0.39)	( 1.54)	( 1.21)	( 6.56)	( 4.69)
0.07	-	-	-	-	0.01	0.01	-	-
( 0.92)	-	-	-	-	( 0.07)	( 0.09)	-	-
-	-	-	-	-	0.07	0.01	0.03	0.01
-	-	-	-	-	( 0.47)	( 0.09)	( 0.14)	( 0.09)
0.62	0.25	0.13	0.83	0.42	0.20	0.29	0.35	0.35
( 8.15)	( 2.44)	( 1.41)	( 4.07)	( 2.04)	( 1.34)	( 2.50)	( 1.68)	( 3.03)
1.68	1.42	2.60	1.17	3.18	1.92	4.22	1.78	3.32
(22.08)	(13.84)	(28.14)	( 5.74)	(15.47)	(12.83)	(36.41)	( 8.53)	(28.77)
-	-	-	0.08	0.07	0.01	0.01	0.05	0.03
-	-	-	( 0.39)	( 0.34)	( 0.07)	( 0.09)	( 0.24)	( 0.26)
0.51	1.17	0.76	1.25	0.76	2.90	0.69	5.18	1.23
( 6.70)	(11.40)	( 8.23)	( 6.13)	( 3.70)	(19.39)	( 5.95)	(24.80)	(10.66)
1.83	5.75	2.48	12.25	2.76	7.41	1.85	9.08	2.09
(24.05)	(56.04)	(26.84)	(60.05)	(13.43)	(49.53)	(15.96)	(43.47)	(18.11)
-	0.42	0.11	0.58	0.08	0.35	0.08	0.23	0.02
-	( 4.09)	( 1.19)	( 2.84)	( 0.39)	( 2.34)	( 0.69)	( 1.10)	( 0.17)
-	-	-	0.08	0.08	0.08	0.08	-	-
-	-	-	( 0.39)	( 0.39)	( 0.53)	( 0.69)	-	-
-	-	-	-	-	0.03	0.01	0.01	0.01
-	-	-	-	-	( 0.20)	( 0.09)	( 0.05)	( 0.09)
0.08	0.50	0.46	0.75	0.47	0.19	0.17	0.33	0.30
( 1.05)	( 4.87)	( 4.98)	( 3.68)	( 2.29)	( 1.27)	( 1.47)	( 1.58)	( 2.60)
-	0.25	1.52	0.58	8.25	0.11	1.07	0.24	1.16
-	( 2.44)	(16.45)	( 2.84)	(40.15)	( 0.74)	( 9.23)	( 1.15)	(10.03)
0.58	0.08	0.42	0.42	2.38	0.46	0.86	0.31	1.11
( 7.62)	( 0.78)	( 4.55)	( 2.06)	(11.58)	( 3.07)	( 7.42)	( 1.49)	( 9.62)
-	0.17	0.68	-	-	0.13	0.18	0.01	0.01
-	( 1.65)	( 7.36)	-	-	( 0.80)	( 1.55)	( 0.05)	( 0.09)
-	-	-	0.08	1.10	0.10	0.33	0.53	0.48
-	-	-	( 0.39)	( 5.35)	( 0.67)	( 2.85)	( 2.54)	( 4.16)
1.82	-	-	-	-	0.01	0.22	0.01	0.01
(23.92)	-	-	-	-	( 0.07)	( 1.90)	( 0.05)	( 0.09)
0.14	-	-	-	-	0.06	0.51	0.25	0.36
( 1.84)	-	-	-	-	( 0.40)	( 4.40)	( 1.20)	( 3.12)
0.03	0.25	0.08	2.25	0.92	0.61	0.28	1.09	0.49
( 0.39)	( 2.44)	( 0.87)	(11.03)	( 4.48)	( 4.08)	( 2.41)	( 5.22)	( 4.25)
7.61	10.26	9.24	20.40	20.55	14.97	11.58	20.89	11.54

Table A2. Number, Weight (g), and Percentage of Fish Per 3.0-m Seine Collection, L

Species	Sept.		Oct.		Nov.		No.
	No.	Wt.	No.	Wt.	No.	Wt.	
Florida gar	-	-	-	-	-	-	-
Chain pickerel	-	-	-	-	0.17	9.50	-
Golden shiner	-	-	-	-	( 0.63)	(30.32)	-
Coastal shiner	-	-	1.83	1.45	6.00	2.75	-
White catfish	-	-	(10.09)	(10.73)	(22.64)	( 8.78)	-
Golden topminnow	-	-	2.00	1.23	1.17	1.03	-
Seminole killifish	5.83	15.30	(11.01)	( 9.12)	( 4.40)	( 3.30)	-
Bluefin killifish	(21.47)	(50.00)	1.33	1.50	4.17	7.45	5.50
Gambusia	4.67	1.47	( 7.34)	(11.10)	(15.72)	(23.78)	(11.11)
Least killifish	(17.18)	( 4.79)	1.00	0.02	0.33	0.01	0.33
Brook silverside	(17.18)	( 4.79)	( 5.50)	( 1.60)	( 1.26)	( 0.32)	( 0.67)
Bluespotted sunfish	11.00	5.37	9.17	3.18	0.33	0.02	43.17
Warmouth	(40.49)	(17.54)	(50.46)	(23.55)	( 1.26)	( 0.05)	(87.20)
Black crappie	-	-	-	-	0.33	0.02	0.50
Largemouth bass	-	-	-	-	( 1.26)	( 0.05)	( 1.01)
Swamp darter	-	-	-	-	-	-	-
Dollar sunfish	0.50	0.72	0.50	1.00	-	-	-
Bluegill	( 1.84)	( 2.34)	( 2.75)	( 7.40)	-	-	-
Spotted sunfish	0.50	0.62	0.50	2.28	-	-	-
Black crappie	( 1.84)	( 2.02)	( 2.75)	(16.89)	-	-	-
Largemouth bass	4.33	6.10	1.67	1.98	1.80	4.82	-
Swamp darter	(15.95)	(19.93)	( 9.17)	(14.67)	( 6.92)	(15.37)	-
Dollar sunfish	-	-	-	-	-	-	-
Black crappie	-	-	-	-	-	-	-
Largemouth bass	-	-	-	-	-	-	-
Swamp darter	0.33	1.03	0.17	0.06	0.33	1.57	-
Dollar sunfish	( 1.23)	( 3.38)	( 0.01)	( 4.93)	( 1.26)	( 5.00)	-
Black crappie	-	-	-	-	0.50	0.17	-
Largemouth bass	-	-	-	-	( 1.89)	( 0.53)	-
Total	27.16	30.61	18.17	12.70	15.13	27.34	49.50

( ) = Percent

Section, Lake Conway, 1977-78

[illegible]

D.	Apr.		May		June		July		Aug.		Mo No
	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	
17	-	-	-	-	-	-	-	-	-	-	-
04)	0.38	-	-	-	-	-	-	-	-	-	0.0
	( 3.75)	-	-	-	-	-	-	-	-	-	( 0.1
	-	-	-	-	-	-	-	-	-	-	-
67	0.53	2.17	0.70	0.50	0.38	0.50	0.50	0.83	0.73	1.0	1.0
16)	( 5.22)	( 8.39)	( 1.98)	( 1.75)	( 2.74)	( 6.82)	( 4.03)	( 4.17)	( 7.19)	( 5.1	( 5.1
	-	-	-	-	-	-	-	-	-	-	-
33	0.15	0.17	0.23	0.17	0.10	0.17	0.25	0.33	0.05	0.3	0.3
08)	( 1.47)	( 0.65)	( 0.66)	( 0.58)	( 0.71)	( 2.27)	( 2.01)	( 1.67)	( 0.49)	( 1.8	( 1.8
83	12.30	9.33	25.35	2.50	3.97	3.00	8.45	-	-	3.3	3.3
45)	(60.20)	(36.13)	(71.61)	( 8.77)	(28.33)	(40.91)	(68.05)	-	-	(15.5	(15.5
33	0.08	0.33	0.15	1.17	0.53	0.33	0.28	1.83	0.82	0.8	0.8
08)	( 0.82)	( 1.29)	( 0.42)	( 4.09)	( 3.81)	( 4.55)	( 2.28)	( 9.17)	( 8.01)	( 4.0	( 4.0
33	2.83	13.50	8.60	22.33	7.43	2.83	1.93	15.00	5.37	13.9	13.9
06)	(27.73)	(52.26)	(24.29)	(78.36)	(53.09)	(38.64)	(15.57)	(75.00)	(52.61)	(65.4	(65.4
50	0.08	-	-	0.50	0.22	-	-	-	-	0.1	0.1
12)	( 0.82)	-	-	( 1.75)	( 1.55)	-	-	-	-	( 0.7	( 0.7
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	0.33	0.27	0.17	0.33	0.50	0.48	0.1	0.1
	-	-	-	( 1.17)	( 1.90)	( 2.27)	( 2.68)	( 2.50)	( 4.74)	( 0.8	( 0.8
	-	-	-	-	-	-	-	-	-	0.0	0.0
	-	-	-	-	-	-	-	-	-	( 0.3	( 0.3
	-	-	-	0.17	0.67	-	-	1.67	0.60	0.8	0.8
	-	-	-	( 0.58)	( 4.76)	-	-	( 0.83)	( 5.88)	( 3.7	( 3.7
	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	1.67	0.47	0.1	0.1
	-	-	-	-	-	-	-	( 0.83)	( 4.58)	( 0.6	( 0.6
	-	-	-	-	-	-	-	-	-	-	-
	-	0.33	0.37	0.83	0.43	0.33	0.67	0.83	1.48	0.2	0.2
	-	( 1.29)	( 1.04)	( 2.92)	( 3.09)	( 4.55)	( 5.37)	( 4.17)	(14.54)	( 1.2	( 1.2
	-	-	-	-	-	-	-	0.33	0.20	0.0	0.0
	-	-	-	-	-	-	-	( 1.67)	( 1.96)	( 0.3	( 0.3
16	16.35	25.83	35.40	28.50	14.00	7.33	12.41	22.99	10.20	21.2	21.2

June	July		Aug.		Mean 77-78		Mean 76-77	
	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.
-	-	-	-	-	-	-	0.01	7.04
-	-	-	-	-	-	-	( 0.04)	(20.59)
-	-	-	-	-	0.03	0.82	0.18	0.93
-	-	-	-	-	( 0.14)	( 4.83)	( 0.74)	( 2.72)
-	-	-	-	-	-	-	0.02	0.07
-	-	-	-	-	-	-	( 0.08)	( 0.20)
0.38	0.50	0.50	0.83	0.73	1.09	0.62	3.17	1.41
( 2.74)	( 6.82)	( 4.03)	( 4.17)	( 7.19)	( 5.13)	( 3.65)	(12.99)	( 4.12)
-	-	-	-	-	-	-	0.01	0.01
-	-	-	-	-	-	-	( 0.04)	( 0.02)
0.10	0.17	0.25	0.33	0.05	0.38	0.26	0.07	0.12
( 0.71)	( 2.27)	( 2.01)	( 1.67)	( 0.49)	( 1.80)	( 1.53)	( 0.29)	( 0.35)
3.97	3.00	8.45	-	-	3.31	7.55	2.17	6.67
(28.33)	(40.91)	(68.05)	-	-	(15.59)	(44.49)	( 8.89)	(19.51)
0.53	0.33	0.28	1.83	0.82	0.86	0.28	3.33	1.13
( 3.81)	( 4.55)	( 2.28)	( 9.17)	( 8.01)	( 4.05)	( 1.65)	(13.65)	( 3.31)
7.43	2.83	1.93	15.00	5.37	13.90	5.21	9.42	4.09
(53.09)	(38.64)	(15.57)	(75.00)	(52.61)	(65.42)	(30.70)	(38.61)	(11.96)
0.22	-	-	-	-	0.15	0.04	0.14	0.03
( 1.55)	-	-	-	-	( 0.71)	( 0.24)	( 0.57)	( 0.09)
-	-	-	-	-	-	-	0.01	0.01
-	-	-	-	-	-	-	( 0.04)	( 0.02)
0.27	0.17	0.33	0.50	0.48	0.17	0.23	0.36	0.30
( 1.90)	( 2.27)	( 2.68)	( 2.50)	( 4.74)	( 0.80)	( 1.36)	( 1.47)	( 0.87)
-	-	-	-	-	0.08	0.24	0.11	0.44
-	-	-	-	-	( 0.38)	( 1.41)	( 0.45)	( 1.29)
0.67	-	-	1.67	0.60	0.80	1.18	3.58	7.76
( 4.76)	-	-	( 0.83)	( 5.88)	( 3.76)	( 6.95)	(14.67)	(22.70)
-	-	-	-	-	-	-	0.36	0.30
-	-	-	-	-	-	-	( 1.47)	( 0.87)
-	-	-	1.67	0.47	0.14	0.04	-	-
-	-	-	( 0.83)	( 4.58)	( 0.67)	( 0.24)	-	-
-	-	-	-	-	-	-	0.33	1.36
-	-	-	-	-	-	-	( 1.35)	( 3.98)
0.43	0.33	0.67	0.83	1.48	0.26	0.47	1.11	2.18
( 3.09)	( 4.55)	( 5.37)	( 4.17)	(14.54)	( 1.22)	( 2.77)	( 4.55)	( 6.38)
-	-	-	0.33	0.20	0.07	0.03	0.14	0.09
-	-	-	( 1.67)	( 1.96)	( 0.33)	( 0.18)	( 0.57)	( 0.26)
14.00	7.33	12.41	22.99	10.20	21.24	16.97	24.52	33.94

Table A3. Number, Weight (g), and Percentage of Fish Per 6.1-m Seine Collection,

Species	Sept.		Oct.		Nov.		No.
	No.	Wt.	No.	Wt.	No.	Wt.	
Golden shiner	-	-	-	-	0.50	2.23	-
	-	-	-	-	( 6.00)	( 7.04)	-
Coastal shiner	-	-	-	-	0.33	0.22	-
	-	-	-	-	( 1.03)	( 0.14)	-
Yellow bullhead	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
Seminole killifish	4.67	19.15	17.67	58.58	5.50	18.53	30.83
	(41.77)	(70.72)	(82.81)	(93.78)	(66.00)	(58.40)	(95.36)
Bluefin killifish	1.67	0.06	2.00	0.32	-	-	-
	(14.94)	( 0.22)	( 9.38)	( 0.51)	-	-	-
Gambusia	1.67	0.01	-	-	-	-	0.83
	(14.94)	( 0.04)	-	-	-	-	( 2.58)
Brook silverside	0.67	0.92	0.83	0.68	0.17	0.03	-
	( 5.99)	( 3.40)	( 3.91)	( 1.09)	( 2.00)	( 0.11)	-
Bluespotted sunfish	-	-	-	-	0.50	0.27	0.33
	-	-	-	-	( 6.00)	( 0.84)	( 1.03)
Warmouth	-	-	-	-	0.33	0.80	-
	-	-	-	-	( 4.00)	( 2.52)	-
Bluegill	1.50	2.87	-	-	1.00	9.13	-
	(13.42)	(10.58)	-	-	(12.00)	(28.78)	-
Dollar sunfish	-	-	-	-	0.17	0.17	-
	-	-	-	-	( 2.00)	( 0.53)	-
Redear sunfish	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
Largemouth bass	1.00	4.07	0.17	2.65	0.17	0.57	-
	( 8.94)	(15.02)	( 0.78)	( 4.24)	( 2.00)	( 1.79)	-
Swamp darter	-	-	0.50	0.17	-	-	-
	-	-	( 0.34)	( 0.27)	-	-	-
Chain pickerel	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
Golden topminnow	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
Flagfish	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
Total	11.18	27.08	21.17	62.40	8.67	31.95	31.99

( ) = Percent

[illegible]

Apr.	May		June		July		Aug.		Mea
Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.
-	-	-	-	-	-	-	-	-	0.04
-	-	-	-	-	-	-	-	-	( 0.20)
-	1.33	0.75	-	-	-	-	-	-	0.17
-	( 5.33)	( 0.93)	-	-	-	-	-	-	( 0.84)
-	-	-	-	-	0.17	0.67	-	-	0.01
-	-	-	-	-	( 0.30)	( 0.58)	-	-	( 0.05)
59.48	22.50	73.93	27.00	72.32	46.50	91.48	7.00	21.15	17.65
( 99.42)	(90.00)	(92.00)	(94.19)	(89.67)	(82.54)	(79.93)	(87.50)	(95.56)	(87.38)
-	-	-	0.17	0.06	0.17	0.08	-	-	0.33
-	-	-	( 0.58)	( 0.08)	( 0.30)	( 0.07)	-	-	( 1.63)
0.35	0.33	0.08	0.33	0.22	7.50	2.67	0.33	0.15	1.03
( 0.58)	( 1.33)	( 0.10)	( 1.16)	( 0.27)	(13.31)	( 2.33)	( 4.17)	( 0.67)	( 5.10)
-	-	-	-	-	-	-	-	-	0.14
-	-	-	-	-	-	-	-	-	( 0.69)
-	-	-	-	-	0.17	0.17	0.16	0.15	0.10
-	-	-	-	-	( 0.30)	( 0.15)	( 2.08)	( 0.75)	( 0.50)
-	-	-	-	-	0.33	4.63	-	-	0.06
-	-	-	-	-	( 0.59)	( 4.05)	-	-	( 0.30)
-	-	-	0.17	1.50	0.17	2.17	-	-	0.24
-	-	-	( 0.58)	( 1.86)	( 0.30)	( 1.89)	-	-	( 1.19)
-	-	-	-	-	0.33	1.42	-	-	0.04
-	-	-	-	-	( 0.59)	( 1.24)	-	-	( 0.20)
-	-	-	0.17	5.58	0.33	5.43	-	-	0.04
-	-	-	( 0.58)	( 6.92)	( 0.59)	( 4.75)	-	-	( 0.20)
-	0.33	0.27	0.83	0.97	0.50	5.60	0.50	0.67	0.29
-	( 1.33)	( 0.33)	( 2.91)	( 1.20)	( 0.89)	( 4.89)	( 6.25)	( 3.01)	( 1.44)
-	-	-	-	-	0.17	0.13	-	-	0.06
-	-	-	-	-	( 0.30)	( 0.12)	-	-	( 0.30)
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
59.83	24.49	75.03	28.67	80.65	56.34	114.45	7.99	22.12	20.20

3

June	July		Aug.		Mean 77-78		Mean 76-77	
	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.
-	-	-	-	-	0.04	0.19	-	-
-	-	-	-	-	( 0.20)	( 0.40)	-	-
-	-	-	-	-	0.17	0.09	2.71	1.62
-	-	-	-	-	( 0.84)	( 0.19)	( 4.76)	( 0.68)
-	0.17	0.67	-	-	0.01	0.06	-	-
-	( 0.30)	( 0.58)	-	-	( 0.05)	( 0.13)	-	-
72.32	46.50	91.48	7.00	21.15	17.65	42.76	46.68	168.98
(89.67)	(82.54)	(79.93)	(87.50)	(95.56)	(87.38)	(89.57)	(81.95)	(71.24)
0.06	0.17	0.08	-	-	0.33	0.04	0.25	0.11
( 0.08)	( 0.30)	( 0.07)	-	-	( 1.63)	( 0.08)	( 0.44)	( 0.05)
0.22	7.50	2.67	0.33	0.15	1.03	0.34	0.56	0.21
( 0.27)	(13.31)	( 2.33)	( 4.17)	( 0.67)	( 5.10)	( 0.71)	( 0.98)	( 0.09)
-	-	-	-	-	0.14	0.14	1.04	1.04
-	-	-	-	-	( 0.69)	( 0.29)	( 1.82)	( 0.44)
-	0.17	0.17	0.16	0.15	0.10	0.07	-	-
-	( 0.30)	( 0.15)	( 2.08)	( 0.75)	( 0.50)	( 0.15)	-	-
-	0.33	4.63	-	-	0.06	0.45	-	-
-	( 0.59)	( 4.05)	-	-	( 0.30)	( 0.94)	-	-
1.50	0.17	2.17	-	-	0.24	1.30	1.56	23.89
( 1.86)	( 0.30)	( 1.89)	-	-	( 1.19)	( 2.72)	( 2.74)	(10.07)
-	0.33	1.42	-	-	0.04	0.13	-	-
-	( 0.59)	( 1.24)	-	-	( 0.20)	( 0.27)	-	-
5.58	0.33	5.43	-	-	0.04	0.92	1.23	31.04
( 6.92)	( 0.59)	( 4.75)	-	-	( 0.20)	( 1.93)	( 2.16)	(13.09)
0.97	0.50	5.60	0.50	0.67	0.29	1.23	2.86	9.80
( 1.20)	( 0.89)	( 4.89)	( 6.25)	( 3.01)	( 1.44)	( 2.58)	( 5.02)	( 4.13)
-	0.17	0.13	-	-	0.06	0.02	0.01	0.01
-	( 0.30)	( 0.12)	-	-	( 0.30)	( 0.04)	( 0.02)	( 0.01)
-	-	-	-	-	-	-	0.04	0.40
-	-	-	-	-	-	-	( 0.07)	( 0.17)
-	-	-	-	-	-	-	0.02	0.08
-	-	-	-	-	-	-	( 0.04)	( 0.03)
-	-	-	-	-	-	-	0.01	0.01
-	-	-	-	-	-	-	( 0.02)	( 0.01)
80.65	56.34	114.45	7.99	22.12	20.20	47.74	56.97	237.19

4

Table A4. Number, Weight (kg), and Percentage of Fish Per Gill Net Collection, Lake

Species	Sept.		Oct.		Nov.		No.
	No.	Wt.	No.	Wt.	No.	Wt.	
Florida gar	4.00 (38.10)	3.41 (56.64)	1.00 ( 6.25)	0.65 ( 8.33)	2.00 (10.81)	1.85 (20.95)	3.00 (19.35)
Gizzard shad	-	-	2.50 (15.63)	1.60 (20.51)	1.50 ( 8.11)	1.03 (11.66)	-
Chain pickerel	-	-	1.00 ( 6.25)	0.68 ( 8.72)	0.50 ( 2.70)	0.31 ( 3.51)	1.50 ( 9.68)
White amur	-	-	-	-	-	-	0.50 ( 3.22)
Golden shiner	0.50 ( 4.76)	0.10 ( 1.66)	2.50 (15.63)	0.54 ( 6.92)	1.00 ( 5.40)	0.23 ( 2.60)	0.50 ( 3.22)
Lake chubsucker	0.50 ( 4.76)	0.03 ( 0.50)	3.00 (18.75)	1.97 (25.26)	2.00 (10.81)	1.04 (11.78)	1.00 ( 6.45)
Yellow bullhead	-	-	0.50 ( 3.13)	0.32 ( 4.10)	1.00 ( 5.40)	0.32 ( 3.62)	-
Brown bullhead	1.00 ( 9.52)	0.63 (10.47)	-	-	-	-	0.50 ( 3.22)
Warmouth	-	-	-	-	-	-	-
Bluegill	0.50 ( 4.76)	0.08 ( 1.33)	-	-	-	-	1.00 ( 6.45)
Redear sunfish	0.50 ( 4.76)	0.13 ( 2.16)	-	-	0.50 ( 2.70)	0.04 ( 0.45)	-
Largemouth bass	2.00 (19.05)	1.39 (23.09)	3.00 (18.75)	1.40 (17.95)	8.00 (43.24)	3.41 (38.62)	6.00 (38.71)
Black crappie	1.50 (14.29)	0.25 ( 4.15)	2.50 (15.63)	0.64 ( 8.21)	2.00 (10.81)	0.60 ( 6.80)	1.50 ( 9.68)
Total	10.50	6.02	16.00	7.80	18.50	8.83	15.50

( ) = Percent

ction, Lake Conway, 1977-78

Dec.		Jan.		Feb.		March		April	
No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
3.00	2.61	-	-	-	-	17.50	16.24	8.00	8.90
(19.35)	(31.23)	-	-	-	-	(49.30)	(60.55)	(13.01)	(24.86)
-	-	0.50	0.40	2.00	1.27	5.50	3.67	19.50	13.09
-	-	( 2.62)	( 3.67)	(15.38)	(17.74)	(15.49)	(13.68)	(31.71)	(33.21)
1.50	0.82	3.50	2.26	0.50	0.31	1.50	0.74	3.50	2.17
( 9.68)	( 9.81)	(18.37)	(20.73)	( 3.85)	( 4.33)	( 4.22)	( 2.76)	( 5.69)	( 5.50)
0.50	0.27	-	-	-	-	-	-	1.00	1.47
( 3.22)	( 3.20)	-	-	-	-	-	-	( 1.63)	( 3.72)
0.50	0.07	0.05	0.10	-	-	0.50	0.12	-	-
( 3.22)	( 0.81)	( 2.62)	( 2.17)	-	-	( 1.41)	( 0.45)	-	-
1.00	0.60	1.00	0.24	-	-	1.00	0.57	-	-
( 6.45)	( 7.22)	( 5.25)	( 2.20)	-	-	( 2.82)	( 2.13)	-	-
-	-	-	-	-	-	0.50	0.30	1.00	0.57
-	-	-	-	-	-	( 1.41)	( 1.12)	( 1.63)	( 1.44)
0.50	0.40	0.50	0.25	0.50	0.43	0.50	0.31	-	-
( 3.22)	( 4.78)	( 2.62)	( 2.29)	( 3.85)	( 6.01)	( 1.41)	( 1.16)	-	-
-	-	0.50	0.09	-	-	-	-	-	-
-	-	( 2.62)	( 0.82)	-	-	-	-	-	-
1.00	0.16	-	-	-	-	0.50	0.10	-	-
( 6.45)	( 1.94)	-	-	-	-	( 1.41)	( 0.37)	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
6.00	2.96	13.00	7.56	10.00	5.15	8.00	4.77	28.00	12.01
(38.71)	(35.35)	(68.24)	(69.36)	(76.92)	(71.93)	(22.54)	(17.79)	(45.53)	(30.46)
1.50	0.47	-	-	-	-	-	-	0.50	0.04
( 9.68)	( 5.65)	-	-	-	-	-	-	( 0.81)	( 0.18)
15.50	8.36	19.05	10.90	13.00	7.16	33.50	26.82	61.50	38.25

April		May		June		July		Aug.	
No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
8.00	8.90	14.00	12.22	15.50	1.40	8.00	6.64	6.00	4.82
(13.01)	(24.86)	(36.36)	(44.16)	(44.93)	(16.03)	(23.53)	(43.80)	(24.00)	(35.78)
19.50	13.09	5.00	2.44	5.50	3.11	11.00	3.92	6.00	3.21
(31.71)	(33.21)	(12.98)	( 8.82)	(15.94)	(35.62)	(32.35)	(25.86)	(24.00)	(23.83)
3.50	2.17	2.50	1.90	1.00	0.63	0.50	0.33	1.00	0.58
( 5.69)	( 5.50)	( 6.49)	( 6.87)	( 2.90)	( 7.22)	( 1.47)	( 2.18)	( 4.00)	( 4.31)
1.00	1.47	-	-	-	-	-	-	-	-
( 1.63)	( 3.72)	-	-	-	-	-	-	-	-
-	-	1.00	2.19	1.00	0.22	1.00	0.18	-	-
-	-	( 2.60)	( 7.91)	( 2.90)	( 2.52)	( 2.94)	( 1.19)	-	-
-	-	0.50	0.22	-	-	0.50	0.16	-	-
-	-	( 1.30)	-	-	-	( 1.47)	( 1.06)	-	-
1.00	0.57	-	-	2.00	1.06	0.50	0.38	0.50	0.13
( 1.63)	( 1.44)	-	-	( 5.80)	(12.14)	( 1.47)	( 2.51)	( 2.00)	( 0.97)
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	0.50	0.11	0.50	0.08	2.00	0.11	0.50	0.77
-	-	( 1.30)	( 0.40)	( 1.45)	( 0.92)	( 5.88)	( 0.73)	( 2.00)	( 5.72)
-	-	2.00	0.19	3.50	0.47	0.50	0.05	0.50	0.06
-	-	( 5.19)	( 0.69)	(10.14)	( 5.38)	( 1.47)	( 0.33)	( 2.00)	( 0.44)
-	-	0.50	0.15	0.50	0.14	1.50	0.23	1.50	0.42
-	-	( 1.30)	( 0.54)	( 1.45)	( 1.60)	( 4.41)	( 1.52)	( 6.00)	( 3.12)
28.00	12.01	12.00	5.61	2.50	1.09	6.00	2.64	5.50	2.98
(45.53)	(30.46)	(31.17)	(20.27)	( 7.25)	(12.48)	(17.65)	(17.41)	(22.00)	(22.12)
0.50	0.04	0.50	2.64	2.50	0.53	2.50	0.52	3.50	0.50
( 0.81)	( 0.18)	( 1.30)	( 9.54)	( 7.25)	( 6.07)	( 7.35)	( 3.43)	(14.00)	( 3.71)
61.50	38.25	38.50	27.67	34.50	8.73	34.00	15.16	25.00	13.47

3

Wt.	July		Aug.		Mean 77-78		Mean 76-77	
	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
.40	8.00	6.64	6.00	4.82	6.58	4.90	7.50	6.46
.03)	(23.53)	(43.80)	(24.00)	(35.78)	(24.22)	(32.80)	(23.88)	(36.84)
.11	11.00	3.92	6.00	3.21	4.92	2.82	7.60	4.58
.62)	(32.35)	(25.86)	(24.00)	(23.83)	(18.11)	(18.88)	(24.20)	(25.78)
.63	0.50	0.33	1.00	0.58	1.42	0.89	1.80	1.12
.22)	( 1.47)	( 2.18)	( 4.00)	( 4.31)	( 5.23)	( 5.96)	( 5.73)	( 6.31)
-	-	-	-	-	0.12	0.14	-	-
-	-	-	-	-	( 0.44)	( 0.94)	-	-
.22	1.00	0.18	-	-	0.67	0.31	1.10	0.28
.52)	( 2.94)	( 1.19)	-	-	( 2.47)	( 2.07)	( 3.50)	( 1.59)
-	0.50	0.16	-	-	0.79	0.40	0.40	0.21
-	( 1.47)	( 1.06)	-	-	( 2.91)	( 2.68)	( 1.27)	( 1.20)
.06	0.50	0.38	0.50	0.13	0.50	0.26	0.40	0.10
.14)	( 1.47)	( 2.51)	( 2.00)	( 0.97)	( 1.84)	( 1.74)	( 1.27)	( 0.57)
-	-	-	-	-	0.25	0.17	0.20	0.14
-	-	-	-	-	( 0.92)	( 1.14)	( 0.64)	( 0.20)
.08	2.00	0.11	0.50	0.77	0.33	0.10	0.10	0.01
.92)	( 5.88)	( 0.73)	( 2.00)	( 5.72)	( 1.21)	( 0.67)	( 0.32)	( 0.03)
.47	0.50	0.05	0.50	0.06	0.71	0.09	0.08	0.08
.38)	( 1.47)	( 0.33)	( 2.00)	( 0.44)	( 2.61)	( 0.60)	( 2.56)	( 0.47)
.14	1.50	0.23	1.50	0.42	0.42	0.09	0.20	0.04
.60)	( 4.41)	( 1.52)	( 6.00)	( 3.12)	( 1.55)	( 0.60)	( 0.64)	( 0.20)
.09	6.00	2.64	5.50	2.98	8.67	4.25	7.40	3.85
.48)	(17.65)	(17.41)	(22.00)	(22.12)	(31.91)	(28.45)	(23.57)	(21.62)
.53	2.50	0.52	3.50	0.50	1.79	0.52	3.90	0.90
.07)	( 7.35)	( 3.43)	(14.00)	( 3.71)	( 6.59)	( 3.48)	(12.42)	( 5.08)
.73	34.00	15.16	25.00	13.47	27.17	14.94	30.68	17.77

Table A5. Number, Weight (g), and Percentage of Fish Per Hour from Vegetated Sites in Electrofishing Sites

Species	September 1977		October 1977		November 1977		December 1977		January	
	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	
Florida gar	0.67 ( 0.74)	238.40 ( 3.80)	0.67 ( 0.31)	370.67 ( 4.14)	3.33 ( 1.44)	2100.00 (19.81)	- ( 0.42)	- (30.37)	- ( 1.74)	82
Bowfin	-	-	-	-	0.67 ( 0.29)	1466.67 (13.84)	1.33	2846.67	-	64
Gizzard shad	-	-	-	-	-	-	-	-	-	30
Threadfin shad	-	-	-	-	-	-	-	-	-	112
Chain pickerel	8.00 ( 8.82)	2424.53 (38.67)	18.67 ( 8.72)	2481.00 (27.73)	8.00 ( 3.47)	1638.27 (15.46)	8.67 ( 2.74)	2224.87 (23.74)	3.33 ( 4.35)	82
White amur	-	-	0.67 ( 0.31)	319.73 ( 3.57)	-	-	-	-	1.33 ( 1.74)	64
Golden shiner	5.33 ( 5.88)	127.40 ( 2.03)	4.67 ( 2.18)	129.00 ( 1.44)	8.00 ( 3.47)	152.33 ( 1.44)	2.67 ( 0.84)	82.60 ( 0.88)	2.67 ( 3.48)	30
Coastal shiner	-	-	-	-	0.67 ( 0.29)	0.87 ( 0.01)	4.67 ( 1.48)	4.73 ( 0.01)	-	112
Lake chubsucker	-	-	-	-	-	-	1.33 ( 0.42)	91.13 ( 0.97)	2.67 ( 3.48)	112
Yellow bullhead	-	-	-	-	-	-	-	-	-	30
Brown bullhead	-	-	-	-	1.33 ( 0.58)	827.33 ( 7.80)	-	-	0.67 ( 0.87)	30
Golden topminnow	-	-	-	-	0.67 ( 0.29)	0.93 ( 0.01)	-	-	-	30
Seminole killifish	2.00 ( 2.21)	11.33 ( 0.18)	5.33 ( 2.49)	36.20 ( 0.40)	7.33 ( 3.18)	54.47 ( 0.51)	5.33 ( 1.69)	46.60 ( 0.50)	2.67 ( 3.48)	2
Bluefin killifish	-	-	-	-	-	-	0.67 ( 0.21)	0.40 ( 0.01)	-	2
Gambusia	-	-	3.33 ( 1.56)	1.87 ( 0.02)	0.67 ( 0.29)	0.27 ( 0.01)	-	-	-	2
Brook silverside	4.67 ( 5.15)	3.87 ( 0.06)	30.00 (14.02)	28.00 ( 0.31)	48.67 (21.10)	56.40 ( 0.53)	97.33 (30.80)	135.00 ( 1.44)	20.67 (26.95)	3
Bluespotted sunfish	-	-	4.00 ( 1.87)	5.13 ( 0.06)	5.33 ( 2.31)	6.53 ( 0.06)	8.67 ( 2.74)	10.00 ( 0.11)	2.00 ( 2.61)	8
Warmouth	0.67 ( 0.74)	8.93 ( 0.14)	11.33 ( 5.29)	144.67 ( 1.62)	14.00 ( 6.07)	199.27 ( 1.88)	20.00 ( 6.33)	174.67 ( 1.86)	4.00 ( 5.21)	20
Bluegill	33.33 (36.76)	835.40 (13.33)	79.33 (37.07)	1442.47 (16.12)	80.67 (34.97)	1323.13 (12.48)	107.33 (33.96)	1358.40 (14.49)	17.33 (22.61)	40
Dollar sunfish	0.67 ( 0.74)	1.20 ( 0.02)	1.33 ( 0.62)	4.00 ( 0.04)	1.33 ( 0.58)	4.27 ( 0.03)	10.67 ( 3.38)	33.53 ( 0.36)	4.00 ( 5.28)	2
Redear sunfish	19.33 (21.32)	1586.86 (25.31)	28.00 (13.08)	1320.27 (14.76)	36.67 (15.90)	1104.93 (10.42)	24.67 ( 7.81)	787.80 ( 8.40)	6.00 ( 7.83)	152
Spotted sunfish	2.67 ( 2.94)	133.60 ( 2.13)	0.67 ( 0.31)	5.00 ( 0.06)	1.33 ( 0.58)	35.40 ( 0.33)	2.00 ( 0.63)	35.53 ( 0.38)	1.33 ( 1.74)	2
Largemouth bass	12.00 (13.23)	772.13 (12.32)	24.67 (11.53)	2365.00 (26.44)	10.67 ( 4.62)	1584.73 (14.95)	16.67 ( 5.27)	1405.40 (15.00)	6.67 ( 8.70)	222
Black crappie	1.33 ( 1.47)	125.33 ( 2.00)	1.33 ( 0.62)	293.33 ( 3.28)	1.33 ( 0.58)	45.00 ( 0.42)	2.67 ( 0.84)	134.40 ( 1.43)	1.33 ( 1.74)	42
Swamp darter	-	-	-	-	-	-	1.33 ( 0.42)	0.73 ( 0.01)	-	42
Total	90.67	6268.98	214.00	8946.34	230.67	10600.80	316.01	9372.46	76.67	84

( ) = Percent

in Electrofishing Samples, Lake Conway, 1977-78

per 1977	January 1978		February 1978		March 1978		April 1978		May 1978		June 1
Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.
-	-	-	-	-	0.67	386.67	3.33	3000.00	-	-	-
-	-	-	-	-	( 0.57)	( 2.69)	( 2.96)	(38.74)	-	-	-
2846.67	-	-	-	-	-	-	-	-	0.67	2526.67	0.67
(30.37)	-	-	-	-	-	-	-	-	( 0.51)	(41.43)	( 0.24)
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	1.33	0.73	3.33
-	-	-	-	-	-	-	-	-	( 1.01)	( 0.01)	( 1.21)
2224.87	3.33	873.67	6.00	1817.33	4.67	1543.33	3.33	838.67	2.67	495.40	6.67
(23.74)	( 4.35)	(10.30)	( 2.34)	(32.44)	( 3.95)	(10.72)	( 2.96)	(10.83)	( 2.02)	( 8.12)	( 2.43)
-	1.33	648.67	-	-	-	-	-	-	0.67	686.67	-
-	( 1.74)	( 7.65)	-	-	-	-	-	-	( 0.51)	(11.26)	-
82.60	2.67	380.67	0.67	4.13	2.67	134.33	0.67	3.33	-	-	12.67
( 0.88)	( 3.48)	( 4.49)	( 0.26)	( 0.07)	( 2.26)	( 0.93)	( 0.59)	( 0.04)	-	-	( 4.61)
4.73	-	-	-	-	-	-	-	-	-	-	5.33
( 0.01)	-	-	-	-	-	-	-	-	-	-	( 1.94)
91.13	2.67	1129.33	2.00	1261.33	3.33	788.67	-	-	-	-	-
( 0.97)	( 3.48)	(13.32)	( 0.78)	(22.51)	( 2.84)	( 5.48)	-	-	-	-	-
-	-	-	-	-	0.67	135.33	0.67	459.33	-	-	0.67
-	-	-	-	-	( 0.57)	( 0.94)	( 0.59)	( 5.93)	-	-	9 0.24)
-	0.67	389.33	-	-	2.67	1958.67	0.67	423.33	-	-	-
-	( 0.87)	( 4.60)	-	-	( 2.26)	(13.61)	( 0.59)	( 5.47)	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
46.60	2.67	22.00	3.33	35.93	1.33	19.00	5.33	56.47	2.67	20.67	10.67
( 0.50)	( 3.48)	( 0.26)	( 1.30)	( 0.64)	( 1.13)	( 0.13)	( 4.73)	( 0.73)	( 2.02)	( 0.34)	( 3.88)
0.40	-	-	-	-	-	-	2.67	1.33	2.67	1.00	4.00
( 0.01)	-	-	-	-	-	-	( 2.37)	( 0.01)	( 2.02)	( 0.16)	( 1.46)
-	-	-	-	-	-	-	0.67	0.67	2.00	2.27	6.67
-	-	-	-	-	-	-	( 0.59)	( 0.01)	( 1.52)	( 0.04)	( 2.43)
135.00	20.67	30.00	174.67	281.33	30.67	48.00	14.67	26.40	7.33	13.53	54.67
( 1.44)	(26.95)	( 0.35)	(68.05)	( 5.02)	(25.99)	( 0.33)	(13.02)	( 0.34)	( 5.55)	( 0.22)	(19.90)
10.00	2.00	88.33	3.33	9.33	1.33	1.33	-	-	0.67	7.00	1.33
( 0.11)	( 2.61)	( 1.04)	( 1.30)	( 0.17)	( 1.13)	( 0.01)	-	-	( 0.51)	( 0.11)	( 0.49)
174.67	4.00	261.67	10.00	44.33	0.67	27.00	-	-	3.33	101.00	6.67
( 1.86)	( 5.21)	( 3.09)	( 3.90)	( 0.79)	( 0.57)	( 0.19)	-	-	( 2.52)	( 1.66)	( 2.43)
1358.40	17.33	408.07	49.33	1047.40	29.33	564.93	49.33	924.13	52.00	525.47	66.00
(14.49)	(22.61)	( 4.81)	(19.22)	(18.70)	(24.86)	( 3.93)	(43.79)	(11.93)	(39.39)	( 8.62)	(24.03)
33.53	4.00	16.00	0.67	3.53	-	-	2.00	4.47	15.33	49.13	14.67
( 0.36)	( 5.28)	( 0.19)	( 0.26)	( 0.06)	-	-	( 1.77)	( 0.06)	(11.61)	( 0.81)	( 5.34)
787.80	6.00	1526.00	4.00	288.53	24.00	791.20	18.00	434.67	34.00	597.33	58.00
( 8.40)	( 7.83)	(17.99)	( 1.56)	( 5.15)	(20.34)	( 5.50)	(15.98)	( 5.61)	(25.75)	( 9.80)	(21.12)
35.53	1.33	57.33	0.67	63.33	0.67	58.93	-	-	-	-	1.33
( 0.38)	( 1.74)	( 0.68)	( 0.26)	( 1.13)	( 0.57)	( 0.41)	-	-	-	-	( 0.49)
1405.40	6.67	2219.40	2.00	746.20	15.33	7933.87	10.67	1386.70	6.67	1069.00	21.33
(15.00)	( 8.70)	(26.17)	( 0.78)	(13.32)	(12.99)	(55.13)	( 9.47)	(17.91)	( 5.05)	(17.53)	( 7.77)
134.40	1.33	430.33	-	-	-	-	0.67	184.00	-	-	-
( 1.43)	( 1.74)	( 5.07)	-	-	-	-	( 0.59)	( 2.38)	-	-	-
0.73	-	-	-	-	-	-	-	-	-	-	-
( 0.01)	-	-	-	-	-	-	-	-	-	-	-
9372.46	76.67	8480.80	256.67	5602.70	118.01	14391.26	112.68	7743.50	132.01	6095.87	274.68

May 1978		June 1978		July 1978		Aug. 1978		Mean 77-78		Mean 76-77	
Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.
-	-	-	0.67	14.67	0.67	448.00	0.83	546.53	2.54	1059.21	
-	-	-	( 0.34)	( 0.31)	( 0.43)	(10.39)	( 0.46)	( 7.09)	( 1.54)	( 6.08)	
2526.67	0.67	1266.67	0.67	946.67	-	-	0.33	754.44	0.67	1679.97	
(41.43)	( 0.24)	(20.99)	( 0.34)	(20.30)	-	-	( 0.18)	( 9.80)	( 0.41)	( 9.65)	
-	-	-	-	-	-	-	-	-	0.19	115.70	
-	-	-	-	-	-	-	-	-	( 0.12)	( 0.07)	
0.73	3.33	5.33	2.67	6.67	0.67	1.13	0.67	1.16	1.72	9.77	
( 0.01)	( 1.21)	( 0.09)	( 1.37)	( 0.14)	( 0.43)	( 0.03)	( 0.37)	( 0.02)	( 1.05)	( 0.06)	
495.40	6.67	1970.67	8.00	1760.00	4.00	293.87	6.83	1530.13	10.86	3646.75	
( 8.12)	( 2.43)	(32.66)	( 4.11)	(37.74)	( 2.54)	( 6.82)	( 3.77)	(19.85)	( 6.60)	(20.94)	
686.67	-	-	-	-	0.67	1360.00	0.28	251.26	-	-	
(11.26)	-	-	-	-	( 0.43)	(31.54)	( 0.15)	( 3.26)	-	-	
-	12.67	38.60	10.67	133.40	7.33	119.87	4.84	108.80	2.68	153.65	
-	( 4.61)	( 0.64)	( 5.48)	( 2.68)	( 4.66)	( 2.78)	( 2.67)	( 1.41)	( 1.63)	( 0.88)	
-	5.33	4.00	3.33	4.27	-	-	1.17	1.16	1.20	1.05	
-	( 1.94)	( 0.07)	( 1.71)	( 0.09)	-	-	( 0.65)	( 0.02)	( 0.73)	( 0.01)	
-	-	-	-	-	-	-	0.78	272.54	2.44	1354.82	
-	-	-	-	-	-	-	( 0.43)	( 3.53)	( 1.48)	( 7.78)	
-	0.67	284.67	-	-	-	-	0.17	73.28	0.43	60.49	
-	9 0.24)	( 4.72)	-	-	-	-	( 0.10)	( 0.95)	( 0.45)	( 0.35)	
-	-	-	-	-	-	-	0.45	299.89	0.67	283.82	
-	-	-	-	-	-	-	( 0.25)	( 3.89)	( 0.41)	( 1.63)	
-	-	-	-	-	-	-	0.06	0.08	0.05	0.22	
-	-	-	-	-	-	-	( 0.03)	( 0.01)	( 0.03)	( 0.01)	
20.67	10.67	50.47	4.00	17.93	2.67	16.67	4.39	32.31	2.39	16.51	
( 0.34)	( 3.88)	( 0.84)	( 2.05)	( 0.38)	( 1.70)	( 0.39)	( 2.42)	( 0.42)	( 1.45)	( 0.09)	
1.00	4.00	2.07	2.00	1.40	0.67	0.33	1.06	0.54	0.53	0.24	
( 0.16)	( 1.46)	( 0.03)	( 1.03)	( 0.03)	( 0.43)	( 0.01)	( 0.58)	( 0.01)	( 0.32)	( 0.01)	
2.27	6.67	2.27	6.67	3.20	1.33	0.07	1.78	0.88	0.57	0.46	
( 0.04)	( 2.43)	( 0.04)	( 3.42)	( 0.07)	( 0.85)	( 0.01)	( 0.98)	( 0.01)	( 0.35)	( 0.01)	
13.53	54.67	43.27	40.67	33.47	22.00	47.33	45.50	62.22	10.58	12.39	
( 0.22)	(19.90)	( 0.72)	(20.89)	( 0.72)	(13.98)	( 1.10)	(25.11)	( 0.81)	( 6.43)	( 0.07)	
7.00	1.33	2.00	0.67	1.00	22.00	47.33	4.11	14.83	0.72	1.12	
( 0.11)	( 0.49)	( 0.03)	( 0.34)	( 0.02)	(13.98)	( 1.10)	( 2.27)	( 0.19)	( 0.44)	( 0.01)	
101.00	6.67	100.27	8.00	221.87	4.67	134.67	6.95	118.20	16.08	235.14	
( 1.66)	( 2.43)	( 1.66)	( 4.11)	( 4.76)	( 2.97)	( 3.12)	( 3.38)	( 1.53)	( 9.78)	( 1.35)	
525.47	66.00	597.73	48.67	477.60	48.00	617.13	55.05	843.49	62.45	1630.93	
( 8.62)	(24.03)	( 9.90)	(25.00)	(10.24)	(30.51)	(14.31)	(30.38)	(10.94)	(38.00)	( 9.36)	
49.13	14.67	57.67	11.33	40.53	4.00	13.20	5.50	18.88	1.87	5.81	
( 0.81)	( 5.34)	( 0.96)	( 5.82)	( 0.87)	( 2.54)	( 0.31)	( 3.03)	( 0.25)	( 1.14)	( 0.03)	
597.33	58.00	1242.13	26.00	499.27	28.00	726.00	25.56	908.75	30.34	1986.28	
( 9.80)	(21.12)	(20.58)	(13.36)	(10.71)	(17.80)	(16.84)	(14.11)	(11.79)	(18.45)	(11.41)	
-	1.33	21.93	1.33	42.00	3.33	111.00	1.28	47.00	1.29	43.07	
-	( 0.49)	( 0.36)	( 0.68)	( 0.90)	( 2.12)	( 2.57)	( 0.71)	( 0.61)	( 0.78)	( 0.25)	
1069.00	21.33	344.93	18.67	419.80	6.67	374.73	12.67	1718.49	13.26	4856.15	
(17.53)	( 7.77)	( 5.72)	( 9.59)	( 9.00)	( 4.24)	( 8.69)	( 6.99)	(22.29)	( 8.06)	(27.88)	
-	-	-	0.67	39.30	0.67	0.13	0.83	104.32	1.05	261.76	
-	-	-	( 0.34)	( 0.84)	( 0.43)	( 0.01)	( 0.46)	( 1.35)	( 0.64)	( 1.50)	
-	-	-	-	-	-	-	0.11	0.06	0.05	0.10	
-	-	-	-	-	-	-	( 0.06)	( 0.01)	( 0.03)	( 0.01)	
6095.87	274.68	6034.68	194.69	4663.05	157.35	4311.46	181.20	7709.24	164.63	17415.41	

W

Table A6. Number, Weight (g), and Percentage of Fish Per Hour from Nonvegetated Beach Sites in Ele

Species	September 1977		October 1977		November 1977		December 1977		Jan
	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.
Longnose gar	-	-	-	-	-	-	-	-	-
Florida gar	-	-	-	-	-	-	-	-	-
Bowfin	-	-	-	-	-	-	-	-	-
Gizzard shad	-	-	-	-	-	-	-	-	-
Threadfin shad	-	-	-	-	-	-	-	-	-
Chain pickerel	2.00	1111.53	5.33	1776.00	8.67	973.67	3.33	833.27	3.33
	( 0.77)	(25.97)	( 1.21)	(29.59)	( 1.51)	(14.11)	( 0.69)	(23.54)	( 4.34)
White amur	0.67	255.80	-	-	-	-	-	-	1.33
	( 0.26)	( 5.98)	-	-	-	-	-	-	( 1.73)
Golden shiner	12.67	56.60	6.67	19.33	6.00	35.33	4.67	64.73	2.67
	( 4.87)	( 1.32)	( 1.52)	( 0.32)	( 1.05)	( 0.51)	( 0.97)	( 1.83)	( 3.44)
Coastal shiner	-	-	16.00	9.53	38.00	26.00	16.00	10.20	-
	-	-	( 3.64)	( 0.16)	( 6.63)	( 0.38)	( 3.33)	( 0.29)	-
Lake chubsucker	0.67	467.47	0.67	487.33	1.33	1126.67	0.67	419.80	2.67
	( 0.26)	(10.92)	( 0.15)	( 8.12)	( 0.23)	(16.32)	( 0.14)	(11.86)	( 3.44)
Yellow bullhead	-	-	-	-	-	-	-	-	-
Brown bullhead	-	-	-	-	-	-	-	-	0.67
	-	-	-	-	-	-	-	-	( 0.87)
Tadpole madtom	-	-	-	-	-	-	-	-	-
Seminole killifish	47.33	286.87	52.00	384.40	39.33	298.73	38.67	337.87	2.67
	(18.20)	( 6.70)	(11.82)	( 6.40)	( 6.86)	( 4.32)	( 8.06)	( 9.55)	( 3.44)
Bluefin killifish	-	-	-	-	0.67	0.20	-	-	-
	-	-	-	-	( 0.12)	( 0.01)	-	-	-
Gambusia	-	-	3.33	1.67	0.67	0.87	4.67	2.60	-
	-	-	( 0.76)	( 0.03)	( 0.12)	( 0.01)	( 0.97)	( 0.07)	-
Brook silverside	35.33	28.80	160.00	138.67	311.33	370.07	278.00	282.40	20.67
	(13.59)	( 0.67)	(36.36)	( 2.31)	(54.30)	( 5.36)	(57.92)	( 7.98)	(26.94)
Bluespotted sunfish	2.67	2.20	0.67	0.33	-	-	-	-	2.00
	( 1.03)	( 0.05)	( 0.15)	( 0.01)	-	-	-	-	( 2.67)
Warmouth	2.00	9.67	5.33	42.73	12.00	54.20	5.33	17.00	4.00
	( 0.77)	( 0.22)	( 1.21)	( 0.71)	( 2.09)	( 0.78)	( 1.11)	( 0.48)	( 5.27)
Bluegill	70.67	903.40	113.33	1488.80	90.00	1158.87	76.00	715.73	17.33
	(27.18)	(21.11)	(25.76)	(24.81)	(15.70)	(16.79)	(15.83)	(20.22)	(22.64)
Dollar sunfish	1.33	1.47	2.67	6.20	2.00	4.07	0.67	0.53	4.00
	( 0.51)	( 0.03)	( 0.61)	( 0.10)	( 0.35)	( 0.06)	( 0.14)	( 0.02)	( 5.27)
Redear sunfish	57.33	1140.27	34.67	746.27	35.33	1147.40	36.67	352.13	6.00
	(22.05)	(26.64)	( 7.88)	(12.43)	( 5.16)	(16.62)	( 7.64)	( 9.55)	( 7.87)
Spotted sunfish	-	-	1.33	28.80	-	-	-	-	1.33
	-	-	( 0.30)	( 0.48)	-	-	-	-	( 1.73)
Largemouth bass	27.33	16.29	38.00	871.67	26.67	1670.00	15.33	503.07	6.67
	(10.51)	( 0.38)	( 8.64)	(14.52)	( 4.65)	(24.19)	( 3.19)	(14.21)	( 8.77)
Black crappie	-	-	-	-	0.67	35.87	-	-	1.33
	-	-	-	-	( 0.12)	( 0.52)	-	-	( 1.73)
Swamp darter	-	-	-	-	0.67	0.53	-	-	-
	-	-	-	-	( 0.12)	( 0.01)	-	-	-
Total	260.00	4280.37	440.00	6001.73	573.34	6902.48	480.01	3539.33	76.00

( ) = Percent

stated Beach Sites in Electrofishing Samples, Lake Conway, 1977-78

December 1977		January 1978		February 1978		March 1978		April 1978		May 1978		June
No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	2.00	1211.33	-
-	-	-	-	-	-	-	-	-	-	( 0.50)	(12.84)	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	3.33	1.47	10.00
-	-	-	-	-	-	-	-	-	-	( 0.84)	( 0.01)	( 1.24)
3.33	833.27	3.33	873.67	4.00	921.33	1.33	614.00	1.33	453.33	1.33	272.67	0.67
( 0.69)	(23.54)	( 4.34)	(10.30)	( 0.86)	(15.45)	( 0.28)	( 8.95)	( 0.26)	(13.06)	( 0.34)	( 2.89)	( 0.08)
-	-	1.33	648.67	0.67	1706.67	-	-	-	-	-	-	-
-	-	( 1.73)	( 7.65)	( 0.43)	(28.61)	-	-	-	-	-	-	-
4.67	64.73	2.67	380.67	2.67	50.67	0.67	127.33	-	-	2.67	149.00	2.00
( 0.97)	( 1.83)	( 3.48)	( 4.49)	( 0.57)	( 0.84)	( 0.14)	( 1.86)	-	-	( 0.68)	( 1.58)	( 0.24)
16.00	10.20	-	-	1.33	1.67	0.67	0.53	26.00	21.33	110.67	89.27	126.67
( 3.33)	( 0.29)	-	-	( 0.29)	( 0.03)	( 0.14)	( 0.01)	( 5.10)	( 0.61)	(27.99)	( 0.95)	(15.80)
0.67	419.80	2.67	1129.33	-	-	0.67	538.67	-	-	2.00	1292.67	-
( 0.14)	(11.86)	( 3.48)	(13.32)	-	-	( 0.14)	( 7.85)	-	-	( 0.51)	(13.70)	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	0.67	389.33	-	-	1.33	872.00	-	-	2.00	1259.33	-
-	-	( 0.87)	( 4.60)	-	-	( 0.28)	(12.71)	-	-	( 0.50)	(13.35)	-
-	-	-	-	-	-	-	-	-	-	-	-	-
38.67	337.87	2.67	22.00	2.00	10.87	12.67	143.47	31.33	225.07	22.67	235.00	72.00
( 8.06)	( 9.55)	( 3.48)	( 0.26)	( 0.43)	( 0.18)	( 2.62)	( 2.09)	( 6.14)	( 6.48)	( 5.73)	( 2.49)	( 8.97)
-	-	-	-	2.67	1.33	-	-	4.00	1.27	5.33	3.00	12.67
-	-	-	-	( 0.57)	( 0.02)	-	-	( 0.78)	( 0.04)	( 1.34)	( 0.03)	( 1.58)
4.67	2.60	-	-	-	-	-	-	0.67	0.07	0.67	0.27	23.33
( 0.97)	( 0.07)	-	-	-	-	-	-	( 0.13)	( 0.01)	( 0.17)	( 0.01)	( 2.90)
278.00	282.40	20.67	30.00	417.33	641.13	382.67	716.00	351.33	583.33	93.33	163.60	428.67
(57.92)	( 7.98)	(26.96)	( 0.35)	(89.30)	(10.75)	(79.39)	(10.43)	(68.88)	(16.80)	(23.60)	( 0.73)	(53.40)
-	-	2.00	88.33	-	-	-	-	-	-	-	-	0.67
-	-	( 2.61)	( 1.04)	-	-	-	-	-	-	-	-	( 0.08)
5.33	17.00	4.00	261.67	2.00	11.67	-	-	0.67	6.67	0.67	8.67	3.33
( 1.11)	( 0.48)	( 5.22)	( 3.09)	( 0.43)	( 0.20)	-	-	( 0.13)	( 0.19)	( 0.17)	( 0.09)	( 0.41)
76.00	715.73	17.33	408.07	23.33	994.13	42.00	536.67	60.00	1000.60	75.67	972.20	61.33
(15.83)	(20.22)	(22.60)	( 4.81)	( 4.99)	(16.66)	( 8.71)	( 7.82)	(11.76)	(28.82)	(18.88)	(10.31)	( 7.64)
0.67	0.53	4.00	16.00	-	-	-	-	-	-	0.67	1.53	6.67
( 0.14)	( 0.02)	( 5.22)	( 0.19)	-	-	-	-	-	-	( 0.16)	( 0.02)	( 0.83)
36.67	352.13	6.00	1526.00	7.33	868.87	26.00	671.27	28.00	906.20	62.67	1888.53	39.33
( 7.64)	( 9.55)	( 7.83)	(17.99)	( 1.56)	(14.56)	( 5.39)	( 9.78)	( 5.49)	(26.10)	(15.85)	(20.02)	( 4.90)
-	-	1.33	57.33	-	-	0.67	58.93	-	-	-	-	0.67
-	-	( 1.73)	( 0.68)	-	-	( 0.14)	( 0.86)	-	-	-	-	( 0.08)
15.33	503.07	6.67	2219.40	4.00	756.20	13.33	2582.33	6.00	274.00	10.67	1884.33	12.00
( 3.19)	(14.21)	( 8.70)	(26.17)	( 0.86)	(12.68)	( 2.76)	(37.64)	( 1.18)	( 7.89)	( 2.70)	(19.98)	( 1.49)
-	-	1.33	430.33	-	-	-	-	-	-	-	-	-
-	-	( 1.73)	( 5.07)	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	0.67	0.02	-	-	2.67
-	-	-	-	-	-	-	-	( 0.13)	( 0.01)	-	-	( 0.33)
442.01	3539.33	76.67	8480.80	467.33	5964.54	482.01	6861.20	510.00	3471.89	395.35	9432.87	802.68

May 1978		June 1978		July 1978		August 1978		Mean 1977-78		Mean 1976-77	
No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
-	-	-	-	-	-	-	-	-	-	0.05	1.34
2.00	1211.33	-	-	-	-	-	-	0.17	100.94	(0.01)	(0.01)
(0.50)	(12.84)	-	-	-	-	-	-	(0.04)	(1.87)	0.48	263.18
-	-	-	-	-	-	-	-	-	-	(0.11)	(2.15)
-	-	-	-	-	-	-	-	-	-	0.05	95.23
-	-	-	-	-	-	-	-	-	-	(0.01)	(0.78)
-	-	-	-	-	-	-	-	-	-	0.34	206.13
-	-	-	-	-	-	-	-	-	-	(0.08)	(1.68)
3.33	1.47	10.00	17.53	11.33	31.13	3.33	4.67	2.33	4.57	2.82	15.95
(0.84)	(0.01)	(1.24)	(0.63)	(1.56)	(0.63)	(0.56)	(0.23)	(0.48)	(0.08)	(0.65)	(0.13)
1.33	272.67	0.67	150.00	0.67	137.33	0.67	151.33	2.72	689.01	4.16	1530.99
(0.34)	(2.89)	(0.08)	(5.42)	(0.09)	(2.79)	(0.11)	(7.38)	(0.56)	(12.78)	(0.95)	(12.50)
-	-	-	-	0.67	2400.00	-	-	0.28	417.60	-	-
-	-	-	-	(0.09)	(48.83)	-	-	(0.06)	(7.75)	-	-
2.67	149.00	2.00	5.07	20.00	63.00	8.00	22.00	5.72	81.14	5.02	155.79
(0.68)	(1.58)	(0.24)	(0.18)	(2.76)	(1.28)	(1.36)	(1.07)	(1.18)	(1.50)	(1.15)	(1.27)
110.67	89.27	126.67	119.87	54.67	55.70	24.00	56.00	34.50	32.54	13.26	11.32
(27.99)	(0.95)	(15.80)	(4.33)	(7.54)	(1.13)	(4.08)	(2.73)	(7.13)	(0.60)	(3.04)	(0.09)
2.00	1292.67	-	-	-	-	1.33	418.00	0.83	490.08	1.44	763.73
(0.51)	(13.70)	-	-	-	-	(0.22)	(20.38)	(0.17)	(9.09)	(0.33)	(6.23)
-	-	-	-	-	-	-	-	-	-	0.05	4.97
-	-	-	-	-	-	-	-	-	-	(0.01)	(0.04)
2.00	1259.33	-	-	-	-	-	-	0.33	210.06	0.43	192.94
(0.50)	(13.35)	-	-	-	-	-	-	(0.07)	(3.90)	(0.10)	(1.58)
-	-	-	-	-	-	-	-	-	-	0.05	0.02
-	-	-	-	-	-	-	-	-	-	(0.01)	(0.01)
22.67	235.00	72.00	279.53	45.33	178.70	65.33	260.73	36.78	221.94	36.95	306.81
(5.73)	(2.49)	(8.97)	(10.09)	(6.26)	(3.64)	(11.12)	(12.71)	(7.60)	(4.12)	(8.47)	(2.50)
5.33	3.00	12.67	5.67	7.33	3.07	0.67	0.40	2.78	1.24	0.91	0.45
(1.34)	(0.03)	(1.58)	(0.20)	(1.01)	(0.06)	(0.11)	(0.02)	(0.57)	(0.02)	(0.21)	(0.01)
0.67	0.27	23.33	15.40	4.67	3.27	14.00	8.00	4.33	2.68	0.38	0.23
(0.17)	(0.01)	(2.90)	(0.56)	(0.64)	(0.07)	(2.38)	(0.39)	(0.89)	(0.05)	(0.09)	(0.01)
93.33	163.60	428.67	273.33	462.67	270.67	378.67	196.00	276.67	307.83	145.53	198.06
(23.60)	(0.73)	(53.40)	(9.87)	(63.84)	(5.51)	(64.47)	(9.56)	(57.15)	(5.71)	(33.38)	(1.62)
-	-	0.67	0.53	0.67	0.07	0.67	0.53	0.61	7.66	0.67	0.69
-	-	(0.08)	(0.02)	(0.09)	(0.01)	(0.11)	(0.03)	(0.13)	(0.14)	(0.15)	(0.01)
0.67	8.67	3.33	36.07	3.33	32.33	1.33	20.00	3.33	41.72	2.49	41.79
(0.17)	(0.09)	(0.41)	(1.30)	(0.46)	(0.66)	(0.22)	(0.98)	(0.69)	(0.77)	(0.57)	(0.34)
74.67	972.20	61.33	609.73	60.67	543.33	56.67	318.00	62.17	804.13	129.73	3349.02
(18.88)	(10.31)	(7.64)	(22.02)	(8.37)	(11.06)	(9.64)	(15.51)	(12.84)	(14.92)	(29.76)	(27.34)
0.67	1.53	6.67	21.07	0.67	2.40	-	-	1.56	4.44	1.39	4.61
(0.16)	(0.02)	(0.83)	(0.76)	(0.09)	(0.05)	-	-	(0.32)	(0.08)	(0.32)	(0.04)
62.67	1888.53	39.33	739.60	36.00	553.33	16.67	194.00	32.17	894.49	64.03	2633.66
(15.85)	(20.02)	(4.90)	(26.70)	(4.96)	(11.26)	(2.84)	(9.46)	(6.65)	(16.60)	(14.68)	(21.50)
-	-	0.67	29.33	-	-	-	-	0.33	14.53	0.18	7.14
-	-	(0.08)	(1.06)	-	-	-	-	(0.07)	(0.27)	(0.04)	(0.06)
10.67	1884.33	12.00	465.27	16.00	640.00	16.00	401.00	16.00	1023.63	24.65	2373.50
(2.70)	(19.98)	(1.49)	(16.80)	(2.20)	(13.02)	(2.72)	(19.55)	(3.31)	(18.99)	(5.65)	(19.38)
-	-	-	-	-	-	-	-	0.17	38.85	0.62	91.53
-	-	-	-	-	-	-	-	(0.04)	(0.72)	(0.14)	(0.75)
-	-	2.67	1.00	-	-	-	-	0.33	0.13	0.29	0.24
-	-	(0.33)	(0.04)	-	-	-	-	(0.07)	(0.01)	(0.07)	(0.01)
395.35	9432.87	802.68	2769.00	724.68	4914.33	587.34	2050.66	484.11	5389.21	435.97	12249.32

3

Table A7. Number, Weight (kg), and Percent of Fish (per hectare) from Blocknet Samples in Lake C

Species	1977							
	West Pool		Middle Pool		South Pool		Mean	
	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
Florida gar	-	-	-	-	-	-	-	-
Gizzard shad	-	-	-	-	-	-	-	-
Threadfin shad	-	-	-	-	7982.50	57.59	2660.83	19.20
Chain pickerel	22.50	3.37	87.50	8.34	(30.08)	(52.28)	(13.12)	(19.14)
Golden shiner	( 0.08)	( 2.70)	( 1.17)	(12.66)	( 0.05)	( 2.34)	( 0.20)	( 4.76)
Coastal shiner	-	-	2.50	0.49	250.00	6.37	84.17	2.29
	-	-	( 0.03)	( 0.74)	( 0.94)	( 5.76)	( 0.42)	( 2.28)
Lake chubsucker	2.50	0.20	2.50	0.06	-	-	1.67	0.09
	( 0.01)	( 0.16)	( 0.03)	( 0.08)	-	-	( 0.01)	( 0.09)
Yellow bullhead	2.50	0.03	-	-	-	-	0.83	0.01
	( 0.01)	( 0.02)	-	-	-	-	( 0.01)	( 0.01)
Brown bullhead	37.50	0.33	12.50	0.84	-	-	16.67	0.39
	( 0.14)	( 0.26)	( 0.17)	( 1.27)	-	-	( 0.08)	( 0.39)
Tadpole madtom	-	-	5.00	0.01	-	-	1.67	0.01
	-	-	( 0.07)	( 0.01)	-	-	( 0.01)	( 0.01)
Seminole killifish	760.00	2.96	17.50	0.07	-	-	259.17	1.01
	( 2.84)	( 2.38)	( 0.23)	( 0.11)	-	-	( 1.28)	( 1.01)
Flagfish	-	-	-	-	-	-	-	-
Bluefin killifish	1230.00	0.62	285.00	0.06	5.00	0.22	506.67	0.30
	( 4.95)	( 0.50)	( 3.81)	( 0.09)	( 0.02)	( 0.02)	( 2.50)	( 0.30)
Least killifish	-	-	-	-	-	-	-	-
Brook silverside	-	-	2.50	0.01	10.00	0.15	4.17	0.05
	-	-	( 0.03)	( 0.01)	( 0.04)	( 0.01)	( 0.02)	( 0.05)
Bluespotted sunfish	17672.50	14.60	5335.00	4.39	5815.00	20.11	12940.83	13.03
	(65.92)	(11.73)	(71.32)	( 6.66)	(59.59)	(18.28)	(63.82)	(12.99)
Warmouth	402.50	2.48	295.00	3.95	345.00	1.04	347.50	2.49
	( 1.50)	( 1.99)	( 3.94)	( 6.00)	( 1.30)	( 0.94)	( 1.71)	( 2.48)
Bluegill	3495.00	44.54	477.50	6.15	422.50	4.86	1465.00	18.52
	(13.04)	(35.78)	( 6.38)	( 9.57)	( 1.59)	( 4.40)	( 7.23)	(18.47)
Dollar sunfish	627.50	0.72	47.50	0.10	175.00	0.18	283.30	0.33
	( 2.34)	( 0.57)	( 0.64)	( 2.42)	( 0.66)	( 0.16)	( 1.40)	( 0.33)
Redear sunfish	1977.50	24.41	370.00	12.98	1072.50	3.37	1140.00	13.59
	( 7.38)	(19.61)	( 4.95)	(19.70)	( 4.04)	( 3.05)	( 5.63)	(13.55)
Largemouth bass	502.50	30.18	539.73	28.30	387.50	13.28	476.58	23.92
	( 1.87)	(24.54)	( 7.22)	(42.96)	( 1.46)	(12.01)	( 2.35)	(23.85)
Black crappie	-	-	-	-	62.50	0.82	20.83	0.27
	-	-	-	-	( 0.24)	( 0.74)	( 0.10)	( 0.27)
Swamp darter	75.00	0.06	-	-	-	-	25.00	0.02
	( 0.28)	( 0.05)	-	-	-	-	( 0.12)	( 0.02)
Total	26807.50	124.50	7479.73	65.75	16540.00	110.58	20275.72	100.29

( ) = Percent

(per hectare) from Blocknet Samples in Lake Conway, 1977-78

1977						1978					
Pool	South Pool		Mean		West Pool		Middle Pool		South Pool		Mean
Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	7982.50	57.59	2660.83	19.20	67.50	0.61	-	-	-	-	22.50
-	(30.08)	(52.28)	(13.12)	(19.14)	(0.21)	(0.44)	-	-	-	-	(0.04)
8.34	12.50	2.59	40.83	4.77	60.00	17.05	227.50	15.87	92.50	4.25	126.67
(12.66)	(0.05)	(2.34)	(0.20)	(4.76)	(0.18)	(12.29)	(0.34)	(10.79)	(0.14)	(6.48)	(0.23)
0.49	250.00	6.37	84.17	2.29	667.50	6.93	-	-	-	-	222.50
(0.74)	(0.94)	(5.76)	(0.42)	(2.28)	(2.03)	(5.00)	-	-	-	-	(0.40)
-	-	-	-	-	1745.00	1.21	-	-	-	-	581.67
-	-	-	-	-	(5.32)	(0.87)	-	-	-	-	(1.06)
0.06	-	-	1.67	0.09	-	-	-	-	-	-	-
(0.08)	-	-	(0.01)	(0.09)	-	-	-	-	-	-	-
-	-	-	0.83	0.01	-	-	280.00	1.46	-	-	93.33
-	-	-	(0.01)	(0.01)	-	-	(0.42)	(0.99)	-	-	(0.14)
0.84	-	-	16.67	0.39	17.50	2.78	102.50	0.22	-	-	40.00
(1.27)	-	-	(0.08)	(0.39)	(0.05)	(2.00)	(0.15)	(0.15)	-	-	(0.07)
0.01	-	-	1.67	0.01	-	-	-	-	-	-	-
(0.01)	-	-	(0.01)	(0.01)	-	-	-	-	-	-	-
0.07	-	-	259.17	1.01	645.00	2.32	-	-	27.50	0.12	224.17
(0.11)	-	-	(1.28)	(1.01)	(1.96)	(1.69)	-	-	(0.04)	(0.18)	(0.41)
-	-	-	-	-	-	-	-	-	-	-	-
0.06	5.00	0.22	506.67	0.30	4790.00	3.92	2437.50	0.85	3175.00	1.04	3467.50
(0.09)	(0.02)	(0.02)	(2.50)	(0.30)	(14.59)	(2.83)	(3.67)	(0.58)	(4.80)	(1.58)	(6.29)
-	-	-	-	-	-	-	-	-	-	-	-
0.01	10.00	0.15	4.17	0.05	622.50	1.09	-	-	27.50	0.06	216.67
(0.01)	(0.04)	(0.01)	(0.02)	(0.05)	(1.90)	(0.79)	-	-	(0.04)	(0.08)	(0.39)
4.39	5815.00	20.11	12940.83	13.03	5367.50	5.45	52177.50	30.24	56260.00	24.83	37935.00
(6.66)	(59.59)	(18.28)	(63.82)	(12.99)	(16.35)	(3.93)	(78.56)	(20.56)	(85.05)	(35.68)	(68.81)
3.95	345.00	1.04	347.50	2.49	312.50	0.94	2282.50	22.21	962.50	4.64	1185.83
(6.00)	(1.30)	(0.94)	(1.71)	(2.48)	(0.95)	(0.68)	(3.44)	(15.10)	(1.45)	(6.67)	(2.15)
6.15	422.50	4.86	1465.00	18.52	417.50	11.20	4040.00	30.71	3537.50	10.80	2665.00
(9.57)	(1.59)	(4.40)	(7.23)	(18.47)	(1.27)	(8.07)	(6.08)	(20.88)	(5.35)	(15.52)	(4.83)
0.10	175.00	0.18	283.30	0.33	477.50	1.13	617.50	2.08	77.50	0.28	390.83
(2.42)	(0.66)	(0.16)	(1.40)	(0.33)	(1.45)	(0.81)	(0.93)	(1.41)	(0.13)	(0.40)	(0.71)
12.98	1072.50	3.37	1140.00	13.59	2217.50	49.90	1052.50	16.04	1152.50	12.79	1474.17
(19.70)	(4.04)	(3.05)	(5.63)	(13.55)	(6.76)	(35.97)	(1.58)	(10.91)	(1.74)	(18.38)	(2.17)
28.30	387.50	13.28	476.58	23.92	8892.50	32.70	3200.00	27.38	837.50	6.82	4310.00
(42.96)	(1.46)	(12.01)	(2.35)	(23.85)	(27.09)	(23.57)	(4.82)	(18.62)	(1.27)	(15.51)	(7.82)
-	62.50	0.82	20.83	0.27	6522.50	1.47	-	-	-	-	2174.17
-	(0.24)	(0.74)	(0.10)	(0.27)	(19.87)	(1.06)	-	-	-	-	(3.94)
-	-	-	25.00	0.02	2.50	0.03	-	-	-	-	0.83
-	-	-	(0.12)	(0.02)	(0.01)	(0.02)	-	-	-	-	(0.01)
65.75	16540.00	110.58	20275.72	100.29	32825.00	138.73	66417.50	147.06	66150.00	65.63	55130.84

1978										
Pool Wt.	Middle Pool		South Pool		Mean		Yearly Mean 77-78		Yearly Mean 76-77	
	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
-	-	-	-	-	-	-	-	-	0.40	0.16
-	-	-	-	-	-	-	-	-	( 0.01)	( 0.16)
-	-	-	-	-	-	-	-	-	2.10	1.08
-	-	-	-	-	-	-	-	-	( 0.01)	( 1.05)
0.61	-	-	-	-	22.50	0.20	1341.66	9.70	206.40	1.12
0.44)	-	-	-	-	( 0.04)	( 0.17)	( 3.56)	( 8.92)	( 0.50)	( 1.09)
17.05	227.50	15.87	92.50	4.25	126.67	12.39	83.75	8.58	144.40	12.54
12.29)	( 0.34)	(10.79)	( 0.14)	( 6.48)	( 0.23)	(10.58)	( 0.22)	( 7.89)	( 0.35)	(12.15)
6.93	-	-	-	-	222.50	2.31	153.34	2.30	6.60	0.45
5.00)	-	-	-	-	( 0.40)	( 1.97)	( 0.41)	( 2.12)	( 0.02)	( 0.44)
1.21	-	-	-	-	581.67	0.40	290.84	0.20	14.60	0.15
0.87)	-	-	-	-	( 1.06)	( 0.34)	( 0.77)	( 0.18)	( 0.04)	( 0.15)
-	-	-	-	-	-	-	0.84	0.05	0.80	0.58
-	-	-	-	-	-	-	( 0.01)	( 0.05)	( 0.01)	( 0.56)
-	280.00	1.46	-	-	93.33	0.49	47.08	0.25	1.30	0.35
-	( 0.42)	( 0.99)	-	-	( 0.14)	( 0.42)	( 0.12)	( 0.23)	( 0.01)	( 0.34)
2.78	102.50	0.22	-	-	40.00	1.00	28.34	0.70	300.00	1.30
2.00)	( 0.15)	( 0.15)	-	-	( 0.07)	( 0.85)	( 0.08)	( 0.64)	( 0.72)	( 1.26)
-	-	-	-	-	-	-	0.84	0.01	2.10	0.01
-	-	-	-	-	-	-	( 0.01)	( 0.01)	( 0.01)	( 0.01)
2.32	-	-	27.50	0.12	224.17	0.81	241.67	0.91	119.40	0.54
1.69)	-	-	( 0.04)	( 0.18)	( 0.41)	( 0.69)	( 0.64)	( 0.84)	( 0.29)	( 0.52)
-	-	-	-	-	-	-	-	-	4.20	0.01
-	-	-	-	-	-	-	-	-	( 0.02)	( 0.01)
3.92	2437.50	0.85	3175.00	1.04	3467.50	1.94	1987.08	1.12	280.00	0.12
2.83)	( 3.67)	( 0.58)	( 4.80)	( 1.58)	( 6.29)	( 1.66)	( 5.27)	( 1.03)	( 0.63)	( 0.12)
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
1.09	-	-	27.50	0.06	216.67	0.38	110.42	0.21	10.25	0.02
0.79)	-	-	( 0.04)	( 0.08)	( 0.39)	( 0.32)	( 0.29)	( 0.19)	( 0.02)	( 0.02)
5.45	52177.50	30.24	56260.00	24.83	37935.00	20.18	25437.92	16.60	32801.80	18.37
3.93)	(78.56)	(20.56)	(85.05)	(35.68)	(68.81)	(17.22)	(67.47)	(15.27)	(78.78)	(17.81)
0.94	2282.50	22.21	962.50	4.64	1185.83	9.26	766.66	5.88	519.20	2.82
0.68)	( 3.44)	(15.10)	( 1.45)	( 6.67)	( 2.15)	( 7.91)	( 2.03)	( 5.41)	( 1.25)	( 2.73)
11.20	4040.00	30.71	3537.50	10.80	2665.00	17.57	2065.00	18.04	1649.00	16.82
8.07)	( 6.08)	(20.88)	( 5.35)	(15.52)	( 4.83)	(15.00)	( 5.48)	(16.59)	( 3.96)	(16.30)
1.13	617.50	2.08	77.50	0.28	390.83	1.16	337.06	0.74	174.70	0.32
0.81)	( 0.93)	( 1.41)	( 0.13)	( 0.40)	( 0.71)	( 0.99)	( 0.89)	( 0.68)	( 0.42)	( 0.31)
49.90	1052.50	16.04	1152.50	12.79	1474.17	26.24	1307.08	19.92	1317.90	20.98
35.97)	( 1.58)	(10.91)	( 1.74)	(18.38)	( 2.17)	(22.40)	( 3.47)	(18.32)	( 3.17)	(20.34)
32.70	3200.00	27.38	837.50	6.82	4310.00	22.30	2393.29	23.11	4015.40	24.91
23.57)	( 4.82)	(18.62)	( 1.27)	(15.51)	( 7.82)	(19.04)	( 6.35)	(21.26)	( 9.64)	(24.14)
1.47	-	-	-	-	2174.17	0.49	1097.50	0.38	34.00	0.50
1.06)	-	-	-	-	( 3.94)	( 0.42)	( 2.91)	( 0.35)	( 0.08)	( 0.48)
0.03	-	-	-	-	0.83	0.01	12.92	0.02	30.80	0.02
0.02)	-	-	-	-	( 0.01)	( 0.01)	( 0.03)	( 0.02)	( 0.07)	( 0.02)
8.73	66417.50	147.06	66150.00	65.63	55130.84	117.13	37703.29	108.72	41635.35	103.17

Table A8. Number, Weight (g), and Frequency of Occurrence, and Percentage of Food Organisms of Largesmouth Bass, Lake Conroy, 1976-78

Food Organisms	Sept. - Nov. '77		Oct. - Feb. '77-78		A. Mar. - May '78		June - Aug. '78		Mean '77-78		Mean '76-77	
	A	B	A	B	A	B	A	B	A	B	A	B
<b>FISH (Total)</b>	70.00	905.00	61.30	84.84	42.85	94.62	73.22	68.81	61.87	288.32	86.10	413.04
Threadfin shad	(12.50)	(89.38)	(18.35)	(31.55)	(48.00)	(89.91)	(56.91)	(73.42)	(75.25)	(83.03)	(80.54)	(83.81)
Coastal shiner	5.00	0.50	(22.71)	(7.68)	(4.00)	(8.45)	(1.72)	(1.18)	(5.03)	(2.80)	(14.60)	(31.76)
Brown bullhead	(6.25)	(0.05)	(5.00)	(5.00)	(8.00)	(3.41)	(3.45)	(4.08)	(1.25)	(0.12)	(13.66)	(6.75)
Golden topminnow	-	-	-	-	-	-	-	-	(1.56)	(0.03)	(1.35)	-
Seminole killifish	-	-	-	-	-	-	-	-	-	-	0.70	8.18
Bluefin killifish	-	-	-	-	-	-	-	-	-	-	(0.65)	(1.74)
Cyprinodontidae	-	-	-	-	-	-	-	-	-	-	(0.45)	(0.70)
Gambusia	-	-	-	-	-	-	-	-	-	-	(0.45)	(0.70)
Brook silverside	10.00	5.00	3.23	2.26	3.57	11.43	2.22	12.00	1.45	5.86	2.60	19.43
Bluespotted sunfish	(12.50)	(0.47)	(4.55)	(1.53)	(4.00)	(4.75)	(1.72)	(12.80)	(1.45)	(1.69)	(2.43)	(4.13)
Watersnout	5.00	5.00	-	-	7.14	4.62	2.22	4.44	0.56	0.28	0.70	0.25
Bluegill	(6.25)	(0.47)	(5.00)	(5.00)	(8.00)	(3.41)	(3.45)	(4.08)	(0.42)	(0.08)	(0.45)	(0.70)
Redear sunfish	-	-	-	-	-	-	-	-	-	-	(2.43)	(0.14)
Spotted sunfish	-	-	-	-	-	-	-	-	-	-	(0.45)	(0.70)
Largemouth bass	5.00	60.00	3.23	23.87	3.23	36.07	4.44	28.00	3.17	27.97	0.70	4.26
Swamp darter	(6.25)	(5.65)	(4.55)	(16.19)	(8.00)	(26.65)	(3.45)	(28.88)	(3.55)	(8.05)	(0.45)	(0.90)
Unidentified fish	30.00	96.00	25.00	30.71	21.43	36.07	48.89	22.02	34.76	50.30	3.00	182.22
Fish eggs	(37.50)	(9.43)	(25.00)	(31.95)	(29.00)	(26.65)	(37.94)	(23.50)	(38.59)	(14.49)	(3.09)	(2.20)
<b>AMPHIBIA</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>INSECTA</b>	-	-	-	-	-	-	-	-	-	-	-	-
Antennipoda	-	-	-	-	-	-	-	-	-	-	-	-
Coquilidae	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified insects	-	-	-	-	-	-	-	-	-	-	-	-
<b>CRUSTACEA</b>	-	-	-	-	-	-	-	-	-	-	-	-
Decapoda	-	-	-	-	-	-	-	-	-	-	-	-
Polychaeta	-	-	-	-	-	-	-	-	-	-	-	-
Precladocera sp.	5.00	7.50	3.23	5.48	3.23	37.86	8.89	26.67	4.44	9.60	0.70	1.85
Cladocera	(6.25)	(0.71)	(4.55)	(3.72)	(20.00)	(22.43)	(14.29)	(26.32)	(4.44)	(9.60)	(10.01)	(11.72)
<b>MOLLUSCA</b>	-	-	-	-	-	-	-	-	-	-	-	-
Physidae	-	-	-	-	-	-	-	-	-	-	-	-
<b>NEMATODA</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>HYDROCARINA</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>VEGETATION</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	80.00	1012.50	70.99	147.42	89.28	135.34	128.66	93.72	92.31	347.24	193.00	470.34

( ) = Percent.  
A = Number per 100 individuals.  
B = Weight per 100 individuals.  
C = Frequency of occurrence per 100 individuals.

Table A9. Number, Frequency of Occurrence, and Percentage of Food Organisms of Blugill, Lake Conroy, 1976-78

Food Organisms	Sept. - Nov. '77		Dec. - Feb. '77-78		Mar. - May '78		June - Aug. '78		Mean '77 - '78		Mean '76 - '77	
	A	B	A	B	A	B	A	B	A	B	A	B
<b>ARTHOPODA</b>												
CRUSTACEA (total)	4,250.00	(100.00)	2,559.73	(100.00)	21,793.71	(92.42)	1,183.34	(100.00)	7,442.20	(98.11)	3,256.77	(71.77)
Unidentified	(24.29)	(3.33)	(29.13)	(1.13)	(90.25)	(92.42)	(59.03)	(0.00)	(53.17)	(0.54)	(20.10)	(0.57)
Amphipoda	2,415.00	(70.00)	1,226.70	(47.93)	37.93	(0.18)	676.67	(57.21)	1,026.58	(13.67)	204.85	(5.63)
Copepoda	90.00	(2.14)	160.00	(6.25)	9,211.90	(42.31)	18.47	(0.00)	2,124.40	(28.42)	76.75	(2.08)
Decapoda	100.00	(2.38)	20.00	(0.78)	3.45	(0.02)	(0.00)	(0.00)	30.06	(0.40)	6.00	(0.16)
Isopoda	280.00	(6.82)	106.70	(4.17)	11,900.00	(54.63)	83.33	(0.73)	2,044.40	(27.47)	1,538.85	(42.02)
Cladocera	1,165.00	(27.64)	1,041.00	(40.68)	11,900.00	(54.63)	83.33	(0.73)	2,044.40	(27.47)	1,538.85	(42.02)
INSECTA (total)	14,210.00	(336.00)	4,483.33	(100.00)	2,455.55	(11.37)	2,086.67	(177.78)	5,411.11	(72.88)	3,145.86	(86.86)
Unidentified	(71.19)	(1.59)	(100.00)	(2.23)	(0.09)	(0.00)	(0.16)	(0.00)	(0.02)	(0.00)	(0.01)	(0.00)
Collembola (total)	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-	-	-	-	-	-
Diptera	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-	-	-	-	-	-
Ceratopogonidae	-	-	-	-	-	-	-	-	-	-	-	-
Chironomidae	-	-	-	-	-	-	-	-	-	-	-	-
Ephemeroptera	-	-	-	-	-	-	-	-	-	-	-	-
Hemiptera (total)	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-	-	-	-	-	-
Coleoptera	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-	-	-	-	-	-
Neuroptera	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-	-	-	-	-	-
Meconematidae	-	-	-	-	-	-	-	-	-	-	-	-
Hymanoptera (total)	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-	-	-	-	-	-
Odonata (total)	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-	-	-	-	-	-
Anisoptera	-	-	-	-	-	-	-	-	-	-	-	-
Gnaphalidae	-	-	-	-	-	-	-	-	-	-	-	-
Libellulidae	-	-	-	-	-	-	-	-	-	-	-	-
Zygoptera	-	-	-	-	-	-	-	-	-	-	-	-
Trichoptera (total)	-	-	-	-	-	-	-	-	-	-	-	-
Leptoceridae	-	-	-	-	-	-	-	-	-	-	-	-
AMARINIDA (total)	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-	-	-	-	-	-
Hydracarina	-	-	-	-	-	-	-	-	-	-	-	-
MOLUSCA	-	-	-	-	-	-	-	-	-	-	-	-
GASTROPODA (total)	-	-	-	-	-	-	-	-	-	-	-	-
Unidentified	-	-	-	-	-	-	-	-	-	-	-	-
Amphipharidae	-	-	-	-	-	-	-	-	-	-	-	-
Physidae	-	-	-	-	-	-	-	-	-	-	-	-
Planorbidae	-	-	-	-	-	-	-	-	-	-	-	-
AMPHIBIA	-	-	-	-	-	-	-	-	-	-	-	-
EGGS	-	-	-	-	-	-	-	-	-	-	-	-
VEGETATION	-	-	-	-	-	-	-	-	-	-	-	-
Totals	19,010.00		8,786.07		24,130.91		4,076.68		14,005.99		12,141.80	

A = Percent.  
B = Frequency of occurrence per 100 individuals.

Table A10. Number, Weight (g), Frequency of Occurrence, and Percentage of Food Organisms of Chain Pickerel, Lake Conaway, 1976-78

Food Organisms	Sept. - Nov. '77			Dec. '77 - Feb. '78			March - May 1978			June - Aug. '78			Mean - '77-'78			Mean '76-'77		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
<b>FISH</b>																		
Threadfin shad	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.96	4.24	0.79
Chain pickerel	4.55	25.00	4.55	-	-	-	-	-	-	3.50	57.50	2.33	-	-	-	(2.47)	(2.11)	(0.79)
Golden shiner	(10.00)	(16.72)	(4.55)	-	-	-	-	-	-	(7.14)	(17.60)	(2.33)	-	-	-	-	-	-
Coastal shiner	4.55	22.73	4.55	-	-	-	-	-	-	-	-	-	-	-	-	0.47	7.09	0.34
Lake chubucker	(10.00)	(15.20)	(4.55)	-	-	-	-	-	-	-	-	-	-	-	-	(0.71)	(2.40)	(0.34)
Brown bullhead	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.50	1.46	1.36
Golden topminnow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(2.27)	(0.49)	(1.36)
Semiole killifish	4.55	6.82	4.55	3.33	56.67	3.33	-	-	-	2.50	2.50	2.33	-	-	-	0.21	3.18	0.11
Bluefin killifish	(10.00)	(4.56)	(4.55)	(3.33)	(21.51)	(3.33)	-	-	-	(7.14)	(0.77)	(2.33)	-	-	-	(0.55)	(1.18)	(0.43)
Gambusia	9.09	9.09	4.55	-	-	-	-	-	-	-	-	-	-	-	-	(0.88)	(3.06)	(0.43)
-	(20.00)	(8.08)	(4.55)	-	-	-	-	-	-	-	-	-	-	-	-	(0.21)	0.30	0.21
Brook silverside	-	-	-	30.00	28.00	13.33	13.33	12.33	13.33	2.50	3.75	2.33	-	-	-	(0.32)	(0.10)	(0.21)
Bluespotted sunfish	-	-	-	(32.14)	(10.63)	(13.33)	(18.18)	(5.12)	(13.33)	(7.14)	(1.15)	(2.33)	-	-	-	(0.32)	(0.10)	(0.21)
Wormmouth	-	-	-	6.67	13.66	6.67	-	-	-	-	-	-	-	-	-	1.27	7.46	1.45
Bluegill	4.55	30.00	4.55	6.67	16.67	6.67	-	-	-	-	-	-	-	-	-	1.92	(2.18)	(1.45)
-	(10.00)	(31.43)	(4.55)	(7.14)	(8.63)	(6.67)	-	-	-	-	-	-	-	-	-	1.73	(2.18)	(1.45)
Redear sunfish	9.09	9.09	4.55	6.67	16.67	6.67	10.00	96.00	10.00	5.00	181.25	4.65	-	-	-	1.14	0.36	0.41
-	(10.00)	(11.85)	(4.55)	(7.14)	(27.83)	(6.67)	(13.44)	(39.84)	(10.00)	(14.29)	(59.14)	(4.65)	-	-	-	(0.79)	(0.12)	(0.41)
Spotted sunfish	-	-	-	-	-	-	3.33	20.00	3.33	-	-	-	-	-	-	(1.19)	(0.12)	(0.41)
Lepomis spp.	4.55	3.64	4.55	6.67	32.33	6.67	3.33	51.33	3.33	-	-	-	-	-	-	6.67	6.92	2.61
Largemouth bass	(10.00)	(2.43)	(4.55)	(7.14)	(12.27)	(7.14)	(4.55)	(21.30)	(3.33)	-	-	-	-	-	-	(10.07)	(2.34)	(2.61)
Snapp darter	-	-	-	-	-	-	10.00	13.67	10.00	10.00	32.25	9.30	-	-	-	1.65	1.67	1.37
Unidentified fish	9.09	14.55	9.09	16.67	25.83	13.33	10.00	13.67	10.00	10.00	24.75	9.30	-	-	-	(2.49)	(0.57)	(1.37)
-	(20.00)	(9.70)	(9.09)	(17.86)	(9.80)	(13.33)	(27.27)	(5.12)	(20.00)	(28.57)	(7.57)	(9.30)	-	-	-	2.80	2.82	0.57
<b>TESTUDINATA</b>																		
Maple turtle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.83	2.46	2.04
<b>CRUSTACEA</b>																		
Decapoda	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(3.72)	(21.39)	(2.04)
Falsimonetes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.06	40.79	6.59
Paludonae	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(12.19)	(8.19)	(6.59)
Procambarus sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.04	12.38	1.47
<b>GASTROPODA</b>																		
Coniobasis sp.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.00	4.18	1.47
Unidentified matter	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.33	1.42	1.77
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(2.01)	(0.48)	(7.77)
Total	45.48	149.56	-	93.34	263.49	-	73.32	240.99	-	35.00	376.50	-	61.79	245.12	-	29.63	37.34	19.16
																(12.62)	(12.62)	(19.16)
																66.21	295.88	-

( ) = Percent  
 A = Number per 100 individuals  
 B = Weight per 100 individuals  
 C = Occurrence per 100 individuals

Table All. Number, Frequency of Occurrence, and Percentage of Food Organisms of Bluefin Killifish, Lake Conway, 1976-78

	Sept. - Nov. '77		Dec. '77 - Feb. '78		Mar. - May '78		June - Aug. '78		Mean - 77-78		Mean - 76-77	
	A	B	A	B	A	B	A	B	A	B	A	B
<b>ARTHROPODA</b>												
<b>CRUSTACEA</b>												
Amphipoda	33.33	10.00	33.33	6.67	-	-	3.33	3.33	17.50	5.00	25.10	13.46
	( 5.49)	(10.00)	( 2.46)	( 6.67)	-	-	( 0.46)	( 3.33)	( 1.83)	( 5.00)	( 1.24)	(13.46)
Cladocera	140.00	56.67	30.00	16.67	123.33	23.33	63.33	23.33	89.16	30.00	1018.90	73.66
	(23.08)	(56.67)	( 2.22)	(16.67)	(10.82)	(23.33)	( 8.72)	(23.33)	( 9.34)	(30.00)	(50.35)	(73.65)
Copepoda	83.33	43.33	730.00	56.67	176.67	36.67	76.67	23.33	266.67	40.00	101.40	32.33
	(13.74)	(43.33)	(53.94)	(56.67)	(15.50)	(36.67)	(10.55)	(23.33)	(27.95)	(40.00)	( 5.01)	(32.33)
Argulus	-	-	-	-	-	-	-	-	-	-	1.20	1.25
	-	-	-	-	-	-	-	-	-	-	( 0.06)	( 1.25)
Ostracoda	130.00	53.33	120.00	30.00	726.67	70.00	543.33	40.00	380.00	48.33	409.30	45.01
	(21.93)	(53.33)	( 8.87)	(30.00)	(63.74)	(70.00)	(74.77)	(40.00)	(39.83)	(48.33)	(20.22)	(45.01)
Decapoda	-	-	-	-	-	-	-	-	-	-	0.30	0.27
Procambarus	-	-	-	-	-	-	-	-	-	-	( 0.01)	( 0.27)
<b>INSECTA</b>												
(Unidentified)	-	-	-	-	-	-	-	-	-	-	1.30	1.33
	-	-	-	-	-	-	-	-	-	-	( 0.01)	( 1.33)
Diptera	-	-	16.67	3.33	-	-	-	-	4.17	0.83	-	-
	-	-	( 1.23)	( 3.33)	-	-	-	-	( 0.44)	( 0.83)	-	-
Ceratopogonidae	-	-	-	-	-	-	-	-	-	-	0.30	0.27
	-	-	-	-	-	-	-	-	-	-	( 0.01)	( 0.27)
Chironomidae	153.33	50.00	410.00	53.33	43.33	16.67	13.33	10.00	154.99	32.50	326.20	49.86
	(27.27)	(50.00)	(30.00)	(53.33)	( 3.80)	(16.67)	( 1.83)	(10.00)	(16.24)	(32.50)	(16.12)	(49.86)
Hemiptera	20.00	10.00	-	-	-	-	-	-	5.00	2.50	-	-
	( 3.30)	(10.00)	-	-	-	-	-	-	( 0.52)	( 2.50)	-	-
Hymenoptera	-	-	-	-	3.33	3.33	-	-	0.83	( 0.83)	-	-
	-	-	-	-	( 0.30)	( 3.33)	-	-	( 0.01)	( 0.83)	-	-
Formicidae	-	-	-	-	-	-	-	-	-	-	0.30	0.27
	-	-	-	-	-	-	-	-	-	-	( 0.01)	( 0.27)
Odonata	-	-	-	-	6.67	6.67	-	-	1.67	1.67	-	-
	-	-	-	-	( 0.59)	( 6.67)	-	-	( 0.17)	( 1.67)	-	-
Gomphidae	-	-	-	-	-	-	-	-	-	-	0.40	0.42
	-	-	-	-	-	-	-	-	-	-	( 0.02)	( 0.42)
Zygoptera	-	-	-	-	-	-	-	-	-	-	0.50	0.53
	-	-	-	-	-	-	-	-	-	-	( 0.02)	( 0.53)
Trichoptera	-	-	-	-	-	-	-	-	-	-	0.70	0.67
	-	-	-	-	-	-	-	-	-	-	( 0.03)	( 0.67)
<b>ARACHNIDA</b>												
	-	-	-	-	-	-	-	-	-	-	3.0	1.20
	-	-	-	-	-	-	-	-	-	-	( 0.08)	( 1.20)
<b>HYDRACARINA</b>												
	40.00	6.67	13.33	6.67	6.67	6.67	16.67	10.00	19.17	7.50	27.00	18.94
	( 6.59)	( 6.67)	( 0.98)	( 6.67)	( 0.59)	( 6.67)	( 2.29)	(10.00)	( 3.17)	( 7.50)	( 1.33)	(18.94)
<b>MOLLUSCA</b>												
Palaeocypoda	-	-	-	-	-	-	3.33	3.33	0.83	0.83	-	-
	-	-	-	-	-	-	( 0.46)	( 3.33)	( 0.01)	( 0.83)	-	-
Planorbidae	-	-	-	-	-	-	-	-	-	-	-	-
Gyraulus	-	-	-	-	43.33	16.67	6.67	3.33	12.50	5.00	-	-
	-	-	-	-	( 3.80)	(16.67)	( 0.92)	( 3.33)	( 1.31)	( 5.00)	-	-
Physidae	-	-	-	-	-	-	-	-	-	-	0.80	0.83
	-	-	-	-	-	-	-	-	-	-	( 0.04)	( 0.83)
<b>ANNELIDA</b>												
(Unidentified)	3.33	3.33	-	-	10.00	6.67	-	-	0.83	( 0.83)	14.90	1.92
	( 0.55)	( 3.33)	-	-	( 0.88)	( 6.67)	-	-	( 0.01)	( 0.83)	( 0.74)	( 1.92)
<b>VEGETATION</b>												
(Unidentified)	3.33	3.33	-	-	-	-	-	-	0.83	-	1.20	1.25
	( 0.55)	( 3.33)	-	-	-	-	-	-	( 0.01)	-	( 0.06)	( 1.25)
Bysses	-	-	-	-	-	-	-	-	-	-	0.60	0.63
	-	-	-	-	-	-	-	-	-	-	( 0.03)	( 0.63)
Chlorophyta	-	-	-	-	-	-	-	-	-	-	-	-
Volvox	-	-	-	-	-	-	-	-	-	-	0.50	0.53
	-	-	-	-	-	-	-	-	-	-	( 0.02)	( 0.53)
UNIDENTIFIED EGG	-	-	-	-	-	-	-	-	-	-	86.60	8.49
	-	-	-	-	-	-	-	-	-	-	( 0.28)	( 8.49)
<b>FISH SCALES</b>												
	-	-	-	-	-	-	-	-	-	-	1.00	0.53
	-	-	-	-	-	-	-	-	-	-	( 0.05)	( 0.53)
<b>UNIDENTIFIED MATTER</b>												
	-	-	-	-	-	-	-	-	-	-	2.30	2.30
	-	-	-	-	-	-	-	-	-	-	( 0.11)	( 2.32)
Total	606.65		1353.33		1140.00		726.66		954.15		2023.80	

( ) = Percent  
A = Number per 100 individuals  
B = Frequency of occurrence

Table A12. Numbers of Waterfowl and Wading Birds Observed on Lake Conaway, 1976-78

Species	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Mean 77-78	Mean 76-77
Common loon	-	-	-	-	-	-	-	-	-	-	-	-	-	0.64
Wood ibis	-	-	-	-	-	-	17	-	-	-	-	-	1.42	(0.05)
Wood duck	-	-	-	-	-	-	(1.60)	-	-	-	-	-	(0.1)	2.00
Redhead duck	-	-	-	-	-	-	-	-	-	-	-	-	-	(0.24)
Canvasback	-	-	-	-	-	-	-	-	-	-	-	-	-	0.07
Baldpate duck	-	-	-	-	-	-	-	-	-	-	-	-	-	(0.01)
Blue-winged teal	-	-	-	-	-	-	-	-	-	-	-	-	-	16.14
Sora rail	-	-	-	-	-	-	-	-	-	-	-	-	-	(0.58)
Lesser yellowlegs	-	-	-	-	-	-	-	-	-	-	-	-	-	0.29
Caspian tern	-	-	-	5	-	-	-	-	-	-	-	-	-	(0.02)
Purple grackle	-	-	-	(0.31)	-	-	-	-	-	-	-	-	-	0.07
Pie-billed grebe	10	30	14	7	7	6	-	1	3	1	-	-	-	(0.01)
Horned grebe	(1.28)	(3.43)	(0.84)	(0.44)	(0.58)	(0.29)	(0.28)	(0.74)	(0.31)	(1.38)	(0.36)	(0.83)	(0.80)	(0.01)
Double-crested cormorant	-	-	-	-	-	-	-	-	-	-	-	-	-	0.47
Water turkey	1	-	1	-	-	-	-	-	-	-	-	-	-	(0.04)
Great blue heron	(0.13)	-	-	-	(0.08)	-	-	-	-	-	-	-	-	1.21
Green heron	13	8	16	12	14	15	8	4	8	16	10	4	8.08	(0.18)
Great egret	(1.69)	(0.92)	(0.96)	(0.75)	(1.15)	(0.73)	(0.75)	(0.60)	(1.25)	(2.77)	(1.78)	(1.10)	(1.06)	19.50
Snowy egret	(1.16)	(1.49)	(0.60)	(0.31)	(0.90)	(0.58)	(0.66)	(1.19)	(1.10)	(2.94)	(2.67)	(1.93)	(1.00)	(0.55)
Little blue heron	3	-	-	-	-	2	1	-	-	-	-	-	-	9.84
Louisiana heron	(0.39)	-	-	-	-	(0.09)	(0.09)	-	-	-	-	-	-	(0.02)
Least bittern	9	9	6	13	5	8	2	2	-	-	-	-	-	10.67
American bittern	(1.16)	(1.03)	(0.36)	(0.81)	(0.41)	(0.39)	(0.19)	(0.30)	-	-	-	-	-	(1.06)
Cattle egret	5	2	1	-	1	1	9	5	6	6	2	2	3.33	3.00
Black-crowned night heron	(0.64)	(0.23)	(0.06)	-	(0.08)	(0.04)	(0.85)	(0.74)	(0.94)	(1.04)	(0.36)	(0.55)	(0.33)	(0.47)
White ibis	1	-	-	-	1	1	-	-	-	-	-	-	-	(0.27)
Mallard duck	(0.13)	-	-	-	(0.08)	-	-	-	-	-	-	-	-	12.00
Lesser scaup	5	2	5	-	-	-	-	-	-	-	-	-	-	1.38
Ruddy duck	(0.64)	(0.23)	(0.06)	-	(0.08)	(0.04)	(0.85)	(0.74)	(0.94)	(1.04)	(0.36)	(0.55)	(0.33)	(0.02)
Muscovy duck	289	243	267	270	231	201	142	124	229	189	229	220	219.50	129.50
Ringed-neck duck	(37.24)	(27.84)	(14.04)	(16.79)	(10.98)	(9.72)	(13.35)	(10.45)	(35.84)	(32.70)	(40.75)	(60.77)	(13.40)	(0.43)
Buff goose	-	-	-	-	-	-	-	-	-	-	-	-	-	(0.02)
Emden goose	-	-	-	-	-	-	-	-	-	-	-	-	-	0.08
Bald eagle	-	-	-	-	-	-	-	-	-	-	-	-	-	(0.01)
Marsh hawk	-	-	-	-	-	-	-	-	-	-	-	-	-	73.58
Osprey	-	-	-	-	-	-	-	-	-	-	-	-	-	111.00
Lincoln	22	20	36	36	23	25	8	4	4	-	-	-	-	(10.58)
American coot	(2.96)	(2.29)	(0.96)	(1.00)	(1.89)	(1.21)	(0.75)	(0.60)	(0.62)	-	(0.71)	(2.49)	(1.26)	645.71
Common gallinule	30	94	536	593	404	888	624	259	6	10	9	4	271.75	(31.35)
Purple gallinule	(3.87)	(11.00)	(32.19)	(36.88)	(33.20)	(42.92)	(39.85)	(38.54)	(1.23)	(1.73)	(1.60)	(1.10)	(26.98)	98.21
Killdeer	100	115	101	138	40	75	40	35	54	32	47	31	67.33	(10.59)
Common snipe	(12.89)	(13.17)	(6.06)	(6.58)	(3.29)	(3.63)	(3.76)	(5.21)	(8.45)	(5.54)	(8.36)	(8.56)	(6.68)	1.64
Least sandpiper	-	-	-	-	-	-	-	-	-	-	-	-	-	(0.08)
Black tern	9	-	6	-	13	-	2	2	1	-	-	-	-	(0.16)
Herring gull	(1.16)	-	(0.24)	-	(1.07)	-	(0.19)	(0.30)	(0.16)	(0.17)	-	-	-	(0.27)
Least tern	-	-	-	-	-	-	-	-	-	-	-	-	-	1.93
Forrester's tern	-	-	-	-	-	-	-	-	-	-	-	-	-	(0.19)
Ringed-bill gull	-	-	-	-	-	-	-	-	-	-	-	-	-	3.17
Common tern	-	-	-	-	-	-	-	-	-	-	-	-	-	(0.31)
Bonaparte gull	-	-	-	-	-	-	-	-	-	-	-	-	-	(0.07)
Royal tern	-	-	-	-	-	-	-	-	-	-	-	-	-	0.07
Belted kingfisher	-	-	-	-	-	-	-	-	-	-	-	-	-	(0.01)
Fish crow	-	-	-	-	-	-	-	-	-	-	-	-	-	0.08
Red-winged blackbird	-	-	-	-	-	-	-	-	-	-	-	-	-	(0.01)
Boat-tailed grackle	-	-	-	-	-	-	-	-	-	-	-	-	-	12.67
Total 77-78	776	873	1663	1608	1218	2068	1064	672	639	578	362	362	1007.08	
Total 76-77	766	790	2261	3390	2754	2700	1407	1395	1272	1016	868	692	1625.92	

( ) = Percent

In accordance with letter from DAEN-RDC, DAEN-ASI dated 22 July 1977, Subject: Facsimile Catalog Cards for Laboratory Technical Publications, a facsimile catalog card in Library of Congress MARC format is reproduced below.

Large-scale operations management test of use of the white amur for control of problem aquatic plants : Report 2 : First year poststocking results : Volume II : The Fish, Mammals, and Waterfowl of Lake Conway, Florida / by Scott Hardin ... [et al]. (Florida Game and Fresh Water Fish Commission). -- Vicksburg, Miss. : U.S. Army Engineer Waterways Experiment Station ; Springfield, Va. : available from NTIS, 1982.  
70 p. in various pagings ; ill. ; 27 cm. -- (Technical report ; A-78-2, Report 2, Volume 2)  
Cover title.  
"February 1982."  
"Prepared for U.S. Army Engineer District, Jacksonville and Office, Chief of Engineers, U.S. Army."  
"Monitored by Environmental Laboratory, U.S. Army Engineer Waterways Experiment Station."  
At head of title: Aquatic Plant Control Research Program.  
Bibliography: p. 45-48.

Large-scale operations management test of use : ... 1982.  
(Card 2)

1. Aquatic biology. 2. Aquatic weeds. 3. Lake Conway (Fla.) 4. Weed control--Biological control. I. Hardin, Scott. II. United States. Army. Corps of Engineers. Jacksonville District. III. United States. Army. Corps of Engineers. Office of the Chief of Engineers. IV. Aquatic Plant Control Research Program. V. U.S. Army Engineer Waterways Experiment Station. Environmental Laboratory. VI. Series: Technical report (U.S. Army Engineer Waterways Experiment Station) ; A-78-2, Report 2, Volume 2.  
TA7.W34 no.A-78-2 Report 2 Volume 2

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